



## SEQUENCE LISTING

<110> Falco, S. Carl  
Allen, Stephen M.

#4

<120> Plant Amino Acid Biosynthetic Enzymes

<130> BB1116 US CIP

<140> 09/931,457

<141> 2001-08-16

<150> 09/424,976

<151> 1999-12-02

<150> 60/065,385

<151> 1997-11-12

<150> 60/049,406

<151> 1997-06-12

<160> 72

<170> Microsoft Office 97

<210> 1

<211> 826

<212> DNA

<213> Oryza sativa

<400> 1

tggtaccgcc	acgccaaagg	ggtaaggatg	gttgctcagca	cttaccaagc	agcaagtggg	60
gctggggctg	.cgcccatgga	agaactcaaa	cttcaaactc	aagaggtcct	ggcggggaaa	120
gcaccaacat	gcaacatttt	cagtcagcag	tatgctttta	atatattttc	acataatgca	180
ccaattggtg	aaaatgggta	caatgaggag	gagatgaaga	tggtgaagga	gaccagaaaa	240
atctggaatg	ataaagatgt	gaaggtaact	gcaacctgca	tacgagttcc	tgtgatgcgt	300
gcacatgctg	aaagtgtgaa	tctacagttt	gaaaagccac	ttgatgagga	tactgcaagg	360
gaaatcttga	gggcagctga	aggtgttacc	attattgatg	accgtgcttc	caatcgcttc	420
cccacacctc	ttgaggtatc	ggataaagat	gatgtagcag	tgggtagaat	tcgtcaggat	480
ttgtcgcaag	atgataacaa	agggctggac	atatttggtt	gtggagatca	aatacgtaaa	540
ggtgctgcac	tcaatgctgt	gcagattgct	gaaatgctac	tcaagtgatt	ttcttttctg	600
tacctttctc	tccttgcccc	tctttgctct	agtcattggt	tgacggatgt	actctgggta	660
gtatgagatc	aattttgatc	atcttttgta	atctatatct	ctagtgaat	aaatgtaaaa	720
cggttttgct	ctatcttctg	cacaagtgtg	gaagaaatct	gaaattggga	aattggagtg	780
tggcccttgt	tcaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaa		826

<210> 2

<211> 195

<212> PRT

<213> Oryza sativa

<400> 2

Trp	Tyr	Arg	His	Ala	Lys	Val	Val	Arg	Met	Val	Val	Ser	Thr	Tyr	Gln
1				5					10					15	

Ala	Ala	Ser	Gly	Ala	Gly	Ala	Ala	Ala	Met	Glu	Glu	Leu	Lys	Leu	Gln
			20					25					30		

Thr	Gln	Glu	Val	Leu	Ala	Gly	Lys	Ala	Pro	Thr	Cys	Asn	Ile	Phe	Ser
			35				40					45			

Gln Gln Tyr Ala Phe Asn Ile Phe Ser His Asn Ala Pro Ile Val Glu  
 50 55 60  
 Asn Gly Tyr Asn Glu Glu Glu Met Lys Met Val Lys Glu Thr Arg Lys  
 65 70 75 80  
 Ile Trp Asn Asp Lys Asp Val Lys Val Thr Ala Thr Cys Ile Arg Val  
 85 90 95  
 Pro Val Met Arg Ala His Ala Glu Ser Val Asn Leu Gln Phe Glu Lys  
 100 105 110  
 Pro Leu Asp Glu Asp Thr Ala Arg Glu Ile Leu Arg Ala Ala Glu Gly  
 115 120 125  
 Val Thr Ile Ile Asp Asp Arg Ala Ser Asn Arg Phe Pro Thr Pro Leu  
 130 135 140  
 Glu Val Ser Asp Lys Asp Asp Val Ala Val Gly Arg Ile Arg Gln Asp  
 145 150 155 160  
 Leu Ser Gln Asp Asp Asn Lys Gly Leu Asp Ile Phe Val Cys Gly Asp  
 165 170 175  
 Gln Ile Arg Lys Gly Ala Ala Leu Asn Ala Val Gln Ile Ala Glu Met  
 180 185 190  
 Leu Leu Lys  
 195

<210> 3  
 <211> 875  
 <212> DNA  
 <213> Triticum aestivum

<400> 3  
 cctcatggct gtcacgccgc tgcacgcgca cgccaagggtg aaaaggatgg ttgtcagcac 60  
 ataccaagca gcaagtgggtg ctgggtgctgc agccatggaa gaactcaaac ttcagactcg 120  
 agaggctcttg gaaggaaagc caccaacctg taacattttc agtcaacagt atgcttttaa 180  
 tatatttttcg cataatgcac ctattgttga aaatggctat aatgaggaag agatgaaaat 240  
 ggtgaaggag accagaaaaa tctggaatga caaggatgta agagtaactg caacttgtat 300  
 acgggttcct acgatgcgcg cgcacgcca aagcgtgaat ctacagtttg aaaagccact 360  
 tgatgaggac actgccagag aaatcttgag ggcagctcct ggtgttacca ttagtgacga 420  
 ccgtgctgcc aaccgcttcc ctacaccact ggagggtatcg gataaagatg acgtatcagt 480  
 tggtaggatt cgccaggact tgtcacaaga tgataacaga gggttggagt tatttgtctg 540  
 tggagaccag atacgtaaag gcgcgcgcgt gaacgctgtg cagattgctg aaatgctact 600  
 gaagtgaccg cctttttacc attgtctcat gtgccacgtt gctctatcca ttgatggatt 660  
 gatgtactct agtcactttc aaccagttt tggtcgtcgt cttttttgta atctgtcaac 720  
 ctagcagaag aagtgtgaaga cgggctttag tcatctgttg cacacaaaag tgcagccaca 780  
 agtttagaaa aggagggttt tcaactgttc ggattttgcc ttaggttgga ctttgttgca 840  
 agttgtcgtt tgtttcttga aagctgggtc gctgt 875

<210> 4  
 <211> 201  
 <212> PRT  
 <213> Triticum aestivum

<400> 4  
 Leu Met Ala Val Thr Pro Leu His Arg His Ala Lys Val Lys Arg Met  
 1 5 10 15

Val	Val	Ser	Thr	Tyr	Gln	Ala	Ala	Ser	Gly	Ala	Gly	Ala	Ala	Ala	Met
			20					25					30		
Glu	Glu	Leu	Lys	Leu	Gln	Thr	Arg	Glu	Val	Leu	Glu	Gly	Lys	Pro	Pro
		35					40					45			
Thr	Cys	Asn	Ile	Phe	Ser	Gln	Gln	Tyr	Ala	Phe	Asn	Ile	Phe	Ser	His
	50					55					60				
Asn	Ala	Pro	Ile	Val	Glu	Asn	Gly	Tyr	Asn	Glu	Glu	Glu	Met	Lys	Met
65					70					75					80
Val	Lys	Glu	Thr	Arg	Lys	Ile	Trp	Asn	Asp	Lys	Asp	Val	Arg	Val	Thr
				85					90					95	
Ala	Thr	Cys	Ile	Arg	Val	Pro	Thr	Met	Arg	Ala	His	Ala	Glu	Ser	Val
			100					105					110		
Asn	Leu	Gln	Phe	Glu	Lys	Pro	Leu	Asp	Glu	Asp	Thr	Ala	Arg	Glu	Ile
		115					120					125			
Leu	Arg	Ala	Ala	Pro	Gly	Val	Thr	Ile	Ser	Asp	Asp	Arg	Ala	Ala	Asn
	130					135					140				
Arg	Phe	Pro	Thr	Pro	Leu	Glu	Val	Ser	Asp	Lys	Asp	Asp	Val	Ser	Val
145					150					155					160
Gly	Arg	Ile	Arg	Gln	Asp	Leu	Ser	Gln	Asp	Asp	Asn	Arg	Gly	Leu	Glu
				165					170					175	
Leu	Phe	Val	Cys	Gly	Asp	Gln	Ile	Arg	Lys	Gly	Ala	Ala	Leu	Asn	Ala
			180					185					190		
Val	Gln	Ile	Ala	Glu	Met	Leu	Leu	Lys							
		195					200								

<210> 5  
 <211> 457  
 <212> DNA  
 <213> Glycine max

<220>  
 <221> unsure  
 <222> (211)  
 <223> n = A, C, G or T

<220>  
 <221> unsure  
 <222> (320)  
 <223> n = A, C, G or T

<220>  
 <221> unsure  
 <222> (377)  
 <223> n = A, C, G or T

<220>  
 <221> unsure  
 <222> (391) (392)  
 <223> n = A, C, G or T

<220>  
<221> unsure  
<222> (410  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (420  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (428  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (432)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (434)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (438  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (442  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (451)  
<223> n = A, C, G or T

<400> 5  
gtctgtttta aaatccaaca cttaatctct ctcttcgcag cctaaaatcc caatggcttc 60  
actctctggt ttgcgccaca accacctctt ctcgggcccc ctcccggccc gccccaagcc 120  
cacctcctcc tcctcctcca ggatccgaat gtccctccgc gagaacggcc cctccatcgc 180  
cgtcgtgggc gtcaccggcg ccgtcggcca ngagtctct tccgtcctt ccgaccgcga 240  
cttcccctac cgctccattc atatgctggc ttccaagcgc tccgctggac gccgcatcac 300  
cttcgaggac agggactacn tcttcaggag ctcacgccgg agagtctgac ggtgtcgaca 360  
tcgcgctctt cagcgcnngg ggtccatcaa nnaagcattc ggaccatcgn cgtaaatacgn 420  
gggacggncg tngncaanat anctccggtt ncctttg 457

<210> 6  
<211> 86  
<212> PRT  
<213> Glycine max

<400> 6  
Met Ala Ser Leu Ser Val Leu Arg His Asn His Leu Phe Ser Gly Pro  
1 5 10 15

Leu Pro Ala Arg Pro Lys Pro Thr Ser Ser Ser Ser Ser Arg Ile Arg

20	25	30
Met Ser Leu Arg Glu Asn Gly Pro Ser Ile Ala Val Val Gly Val Thr		
35	40	45
Gly Ala Val Gly Gln Glu Phe Leu Ser Val Leu Ser Asp Arg Asp Phe		
50	55	60
Pro Tyr Arg Ser Ile His Met Leu Ala Ser Lys Arg Ser Ala Gly Arg		
65	70	75
		80
Arg Ile Thr Phe Glu Asp		
	85	

<210> 7  
 <211> 160  
 <212> PRT  
 <213> Legionella pneumophila

<400> 7
Met Ser Arg His Leu Asn Val Ala Ile Val Gly Ala Thr Gly Ala Val
1 5 10 15
Gly Glu Thr Phe Leu Thr Val Leu Glu Glu Arg Asn Phe Pro Ile Lys
20 25 30
Ser Leu Tyr Pro Leu Ala Ser Ser Arg Ser Val Gly Lys Thr Val Thr
35 40 45
Phe Arg Asp Gln Glu Leu Asp Val Leu Asp Leu Ala Glu Phe Asp Phe
50 55 60
Ser Lys Val Asp Leu Ala Leu Phe Ser Ala Gly Gly Ala Val Ser Lys
65 70 75 80
Glu Tyr Ala Pro Lys Ala Val Ala Ala Gly Cys Val Val Val Asp Asn
85 90 95
Thr Ser Cys Phe Arg Tyr Glu Asp Asp Ile Pro Leu Val Val Pro Gly
100 105 110
Ser Glu Ser Ser Ser Asn Arg Asp Tyr Thr Lys Arg Gly Ile Ile Ala
115 120 125
Asn Pro Asn Cys Ser Thr Ile Gln Met Val Val Ala Leu Lys Pro Ile
130 135 140
Tyr Asp Ala Val Gly Ile Ser Arg Ile Asn Val Ala Thr Tyr Gln Ser
145 150 155 160

<210> 8  
 <211> 1054  
 <212> DNA  
 <213> Zea mays

<400> 8	
atttaacgga aatgggaaga cactcgaaca tcttaaatta gctgctgaga gtggagtatt	60
tgtaaatgtg gatagcgaat ttgatttgga gaatattgtc agagctgcaa gagctactgg	120
aaagaaagtg cctgttttgc ttcgaataaa tccagatgtg gatccgcagg tacatcctta	180
tgttgccacg ggaaataaaa cgtctaaatt tgggatccgc aatgagaaat tgcaatggtt	240

tttggactct	atcaagtc	at	cat	acc	gaatga	aat	caaactc	gtt	gggtgttc	att	gccatct	300	
gggatctact	att	acaaagg	tt	gatata	tatt	cag	agatgct	gc	agttctta	tg	ctgaatta	360	
tgtcgatgaa	att	c	gagcac	aag	gttttaa	gtt	ggagtac	ct	gaatatcg	gag	gtgggttt	420	
gggaatagat	tac	catcata	cc	gatgcag	ctt	acctaca	cct	atggatc	tc	atcaacac		480	
tgtgcgagaa	tt	agttctct	ct	caagatct	cac	tcttatt	att	gaacccg	ga	agatcctt		540	
gattgcta	aat	act	t	gctgct	tc	gtcaatag	ag	taactgg	gt	t	aaatcta	600	
gaatttcatt	gtt	gttgatg	gc	agcatggc	aga	actcatc	ag	acctagtc	tg	t	atggacaaa	660	
ataccagcat	at	c	gaactgg	tct	ctcccc	cac	t	cctgg	g	ctgaagcag	cg	accttcga	720
tattgttgga	cc	agtttgtg	agt	ctgcaga	ttt	ccttgga	aa	agatagg	aa	cttccaac		780	
acctgatgag	gg	agctggac	tg	gttgttca	tg	atgcaggt	gc	ctactgca	tg	agcatggc		840	
ttccacctac	aac	ctgaagt	tg	agggccacc	gga	atactgg	gt	ggaagcgg	ac	ggttcgat		900	
cgttaagatc	agg	catggag	aga	agcttga	tg	actacatg	aa	gttctttg	at	ggtcttcc		960	
tgcttagatg	ttt	attatct	gc	gactgcta	cgg	acgatgt	ttt	cttgggg	ata	attggat		1020	
tttctttgtc	aaaaaaaa		aaaaaaaa	aaaa								1054	

<400> 9

Ser Gly Val Phe Val Asn Val Asp Ser Glu Phe Asp Leu Glu Asn Ile  
20 25 30

Ile Asn Pro Asp Val Asp Pro Gln Val His Pro Tyr Val Ala Thr Gly  
50 55 60

Leu Asp Ser Ile Lys Ser Tyr Pro Asn Glu Ile Lys Leu Val Gly Val  
85 90 95

Ala Ala Val Leu Met Leu Asn Tyr Val Asp Glu Ile Arg Ala Gln Gly  
115 120 125

His His Thr Asp Ala Val Leu Pro Thr Pro Met Asp Leu Ile Asn Thr  
145 150 155 160

Gly Arg Ser Leu Ile Ala Asn Thr Cys Cys Phe Val Asn Arg Val Thr  
180 185 190

Met Ala Glu Leu Ile Arg Pro Ser Leu Tyr Gly Ala Tyr Gln His Ile

210	215	220
Glu Leu Val Ser Pro Pro Thr Pro Gly Ala Glu Ala Ala Thr Phe Asp		
225	230	235 240
Ile Val Gly Pro Val Cys Glu Ser Ala Asp Phe Leu Gly Lys Asp Arg		
	245	250 255
Glu Leu Pro Thr Pro Asp Glu Gly Ala Gly Leu Val Val His Asp Ala		
	260	265 270
Gly Ala Tyr Cys Met Ser Met Ala Ser Thr Tyr Asn Leu Lys Leu Arg		
	275	280 285
Pro Pro Glu Tyr Trp Val Glu Ala Asp Gly Ser Ile Val Lys Ile Arg		
	290	295 300
His Gly Glu Lys Leu Asp Asp Tyr Met Lys Phe Phe Asp Gly Leu Pro		
305	310	315 320

Ala

<210> 10  
 <211> 1813  
 <212> DNA  
 <213> Zea mays

<400> 10

cgcttcctgg	aaggctggaa	cagaaagaac	cctaaaccct	agcaatggcg	gcggcgaacc	60
tgctgtcgcg	ctcccttctc	cccaccccaa	acactatccg	aacgagccac	cccaccccg	120
ggagcccagc	cgtcgtctcc	ttcccccgcc	gccgtgcccc	cctgtccgtg	tgcgccctccg	180
tctccatggc	ctccccgtcc	ccaccgccac	agcccgcggc	ggccggcgtg	ccgaagcact	240
gcttccggcg	cggcgcgcac	ggctacctgt	actgcgaggg	agtgaggggtg	gaagacgcga	300
tggcggctgc	cgagcgcagc	cccttctatc	tctacagcaa	gcttcagatc	ctccgcaact	360
tcgccgctta	ccgcgacgct	ctccaggggc	tccgctccat	cgtcgggtat	gccgtgaagg	420
ccaacaataa	cctccccgtg	ctacgcgtcc	tgctgtgagct	tggctgcggc	gccgtcctcg	480
tcagcggcaa	cgagctccga	ctcgccctcc	aggcgggatt	cgaccccgcc	aggtgtatat	540
ttaacggaaa	tgggaagaca	ctcgaagatc	ttaaattggc	tgctgagagt	ggagtatttg	600
ttaatgtgga	tagtgaattt	gatttagaga	atattgtcag	agctgcaaga	gctactggaa	660
agaaagtgcc	tgttttactt	agaataaatc	cagatgtgga	tccacaggta	catccatatg	720
ttgccacggg	aaataaaaaca	tccaaattcg	ggatccgcaa	tgagaaattg	caatgggtttt	780
tgaactctat	caagtcatac	tcgaatgaaa	tcaaactcgt	tgggtgttcat	tgccatctgg	840
gatctactat	tacaaagggt	gatataattca	gagatgctgc	agtgtcttatg	gtgaattatg	900
tcgatgaaat	tcgagcacia	ggtttttaagt	tggagtacct	gaatattgga	ggtgggtttg	960
gaatagatta	ccatcatacc	gatgcagtct	tacctacacc	tatggatctc	atcaacactg	1020
tacgagaatt	agttctctct	caagatctta	ctcttattat	tgaacctgga	agatccttga	1080
ttgctaatac	ttgctgcttc	gtcaatagag	taactgggtg	taaatctaata	ggtacaaaga	1140
atttcattgt	tggtgatggc	agcatggcag	aactcatcag	acctagcctg	tatggagcat	1200
atcagcatat	cgaattgggtc	tctcccccca	ctcctgggtg	tgaagtagcg	accttcgata	1260
ttgttgggcc	agtttgtgag	tctgcagatt	tccttgga	agatagggaa	cttccaacac	1320
ctgatgaggg	agctggactg	gttgttcatg	atgcaggtgc	ctactgcatg	agcatggctt	1380
ccacctacaa	cctgaagttg	aggccgccag	agtactgggt	tgaagaggat	ggttcgattg	1440
ttaagatcag	gcatagaagag	aagctcgatg	actacatgaa	gttctttgat	ggtcttctctg	1500
cttagatggt	tatttgtgac	tgctaggggc	gatgttttct	tggagataat	tgaatttttc	1560
tttgtcaagc	tcattttgct	ttcttgtggt	tgttatggaa	tggtactgga	tactggatag	1620
ttagttcggc	ctgtaggcgt	atcctcctga	acttacctct	cattgctgtt	agttttggca	1680
ccaagtttgt	tcccaattgc	tatttacgga	agttattgca	taaagggctg	tttggttgta	1740
atcttcccg	aagaataaga	tgcattgttt	tgagttaaaa	aagggggggc	ccggtaccca	1800
attcgcccta	tag					1813

<210> 11  
<211> 486  
<212> PRT  
<213> Zea mays

<400> 11

Met	Ala	Ala	Ala	Asn	Leu	Leu	Ser	Arg	Ser	Leu	Leu	Pro	Thr	Pro	Asn	
1				5					10					15		
Thr	Ile	Arg	Thr	Ser	His	Pro	Thr	Pro	Arg	Ser	Pro	Ala	Val	Val	Ser	
			20					25					30			
Phe	Pro	Arg	Arg	Arg	Ala	Arg	Leu	Ser	Val	Cys	Ala	Ser	Val	Ser	Met	
		35					40					45				
Ala	Ser	Pro	Ser	Pro	Pro	Pro	Gln	Pro	Ala	Ala	Ala	Gly	Val	Pro	Lys	
	50					55					60					
His	Cys	Phe	Arg	Arg	Gly	Ala	Asp	Gly	Tyr	Leu	Tyr	Cys	Glu	Gly	Val	
65					70					75					80	
Arg	Val	Glu	Asp	Ala	Met	Ala	Ala	Ala	Glu	Arg	Ser	Pro	Phe	Tyr	Leu	
				85					90					95		
Tyr	Ser	Lys	Leu	Gln	Ile	Leu	Arg	Asn	Phe	Ala	Ala	Tyr	Arg	Asp	Ala	
			100					105					110			
Leu	Gln	Gly	Leu	Arg	Ser	Ile	Val	Gly	Tyr	Ala	Val	Lys	Ala	Asn	Asn	
		115					120					125				
Asn	Leu	Pro	Val	Leu	Arg	Val	Leu	Arg	Glu	Leu	Gly	Cys	Gly	Ala	Val	
	130					135					140					
Leu	Val	Ser	Gly	Asn	Glu	Leu	Arg	Leu	Ala	Leu	Gln	Ala	Gly	Phe	Asp	
145					150				155						160	
Pro	Ala	Arg	Cys	Ile	Phe	Asn	Gly	Asn	Gly	Lys	Thr	Leu	Glu	Asp	Leu	
				165				170						175		
Lys	Leu	Ala	Ala	Glu	Ser	Gly	Val	Phe	Val	Asn	Val	Asp	Ser	Glu	Phe	
			180					185					190			
Asp	Leu	Glu	Asn	Ile	Val	Arg	Ala	Ala	Arg	Ala	Thr	Gly	Lys	Lys	Val	
		195					200					205				
Pro	Val	Leu	Leu	Arg	Ile	Asn	Pro	Asp	Val	Asp	Pro	Gln	Val	His	Pro	
	210					215					220					
Tyr	Val	Ala	Thr	Gly	Asn	Lys	Thr	Ser	Lys	Phe	Gly	Ile	Arg	Asn	Glu	
225					230					235					240	
Lys	Leu	Gln	Trp	Phe	Leu	Asn	Ser	Ile	Lys	Ser	Tyr	Ser	Asn	Glu	Ile	
				245					250					255		
Lys	Leu	Val	Gly	Val	His	Cys	His	Leu	Gly	Ser	Thr	Ile	Thr	Lys	Val	
			260					265					270			
Asp	Ile	Phe	Arg	Asp	Ala	Ala	Val	Leu	Met	Val	Asn	Tyr	Val	Asp	Glu	
		275					280					285				
Ile	Arg	Ala	Gln	Gly	Phe	Lys	Leu	Glu	Tyr	Leu	Asn	Ile	Gly	Gly	Gly	



290	295	300
Leu Gly Ile Asp Tyr His His Thr Asp Ala Val Leu Pro Thr Pro Met 305 310 315 320		
Asp Leu Ile Asn Thr Val Arg Glu Leu Val Leu Ser Gln Asp Leu Thr 325 330 335		
Leu Ile Ile Glu Pro Gly Arg Ser Leu Ile Ala Asn Thr Cys Cys Phe 340 345 350		
Val Asn Arg Val Thr Gly Val Lys Ser Asn Gly Thr Lys Asn Phe Ile 355 360 365		
Val Val Asp Gly Ser Met Ala Glu Leu Ile Arg Pro Ser Leu Tyr Gly 370 375 380		
Ala Tyr Gln His Ile Glu Leu Val Ser Pro Pro Thr Pro Gly Ala Glu 385 390 395 400		
Val Ala Thr Phe Asp Ile Val Gly Pro Val Cys Glu Ser Ala Asp Phe 405 410 415		
Leu Gly Lys Asp Arg Glu Leu Pro Thr Pro Asp Glu Gly Ala Gly Leu 420 425 430		
Val Val His Asp Ala Gly Ala Tyr Cys Met Ser Met Ala Ser Thr Tyr 435 440 445		
Asn Leu Lys Leu Arg Pro Pro Glu Tyr Trp Val Glu Glu Asp Gly Ser 450 455 460		
Ile Val Lys Ile Arg His Glu Glu Lys Leu Asp Asp Tyr Met Lys Phe 465 470 475 480		
Phe Asp Gly Leu Pro Ala 485		

<210> 12  
 <211> 1116  
 <212> DNA  
 <213> Oryza sativa

<400> 12	
cttacacgga	gtgtttgtaa
tgcgagagtt	gctgggaaga
acaggtccat	ccttatgttg
gaaactacaa	tggttccttag
tgttcattgt	catctgggat
tcttatggtg	aattatgttg
tattggcggg	ggcctgggca
gggacctcat	caacactgtg
tgaacctggg	agatccctca
taaatcta	ggtacaaaga
accaagtcta	tatggagcat
agtagcaaca	ttcgatattg
cagggaaact	ccaacacctg
ctgcatgagc	atggcttcaa
agatgatggg	tccattgcta
ctttgataat	ctctctgcct
tatgtgtggc	tgtatcagga
acatagacag	tgaatttgat
aagtccctgt	tttgctcagg
cgactggaaa	caaaacctcc
actctatcaa	gtcatactca
ctaccattac	aaaggtcgat
atgaaattcg	agcacaaggt
tagwttatca	ccacacggat
ccgaagaatt	agttctgtca
tagctaacac	ttgctgcttc
atthcattgt	agttgatggc
accagcatat	cgaactgggt
ttggaccagt	ttgtgaatct
ataagggagc	tggtttggtg
cctacaactt	gaagttgcga
agattcggcg	tggagagtca
aactcgtttt	cctgcaattg
ttcggattga	tagcgcagta
ataaaccacg	ataaaccacg
aaatttggtg	aaatttggtg
aatgatata	aatgatata
atatttagag	atatttagag
tttgaactgg	tttgaactgg
gcagtcttgc	gcagtcttgc
cgagatctta	cgagatctta
gtcaataggg	gtcaataggg
agcatggcag	agcatggcag
tctccttccc	tctccttccc
gcagatttcc	gcagatttcc
ggtcatgacg	ggtcatgacg
ccacctgaat	ccacctgaat
taataagatt	taataagatt
tttctcttgt	tttctcttgt
cagtttgctg	cagtttgctg
tagaatcggt	tagaatcggt

attttttttt attgtactgt gatgtcggta ccttatttta tccaaagatt tttggcaaat 1080  
 tttgctacag gacacttaaa aaaaaaaaaa aaaaaa 1116

<210> 13  
 <211> 306  
 <212> PRT  
 <213> Oryza sativa

<220>  
 <221> UNSURE  
 <222> (128)  
 <223> Xaa = ANY AMINO ACID

<400> 13  
 Leu His Gly Val Phe Val Asn Ile Asp Ser Glu Phe Asp Leu Glu Asn  
 1 5 10 15  
 Ile Val Thr Ala Ala Arg Val Ala Gly Lys Lys Val Pro Val Leu Leu  
 20 25 30  
 Arg Ile Asn Pro Asp Val Asp Pro Gln Val His Pro Tyr Val Ala Thr  
 35 40 45  
 Gly Asn Lys Thr Ser Lys Phe Gly Ile Arg Asn Glu Lys Leu Gln Trp  
 50 55 60  
 Phe Leu Asp Ser Ile Lys Ser Tyr Ser Asn Asp Ile Thr Leu Val Gly  
 65 70 75 80  
 Val His Cys His Leu Gly Ser Thr Ile Thr Lys Val Asp Ile Phe Arg  
 85 90 95  
 Asp Ala Ala Gly Leu Met Val Asn Tyr Val Asp Glu Ile Arg Ala Gln  
 100 105 110  
 Gly Phe Glu Leu Glu Tyr Leu Asn Ile Gly Gly Gly Leu Gly Ile Xaa  
 115 120 125  
 Tyr His His Thr Asp Ala Val Leu Pro Thr Pro Met Gly Pro His Gln  
 130 135 140  
 His Cys Ala Glu Glu Leu Val Leu Ser Arg Asp Leu Thr Leu Ile Ile  
 145 150 155 160  
 Glu Pro Gly Arg Ser Leu Ile Ala Asn Thr Cys Cys Phe Val Asn Arg  
 165 170 175  
 Val Thr Gly Val Lys Ser Asn Gly Thr Lys Asn Phe Ile Val Val Asp  
 180 185 190  
 Gly Ser Met Ala Glu Leu Ile Arg Pro Ser Leu Tyr Gly Ala Tyr Gln  
 195 200 205  
 His Ile Glu Leu Val Ser Pro Ser Pro Asp Ala Glu Val Ala Thr Phe  
 210 215 220  
 Asp Ile Val Gly Pro Val Cys Glu Ser Ala Asp Phe Leu Gly Lys Asp  
 225 230 235 240  
 Arg Glu Leu Pro Thr Pro Asp Lys Gly Ala Gly Leu Val Val His Asp  
 245 250 255

Ala Gly Ala Tyr Cys Met Ser Met Ala Ser Thr Tyr Asn Leu Lys Leu  
260 265 270

Arg Arg Gly Glu Ser Phe Asp Asp Tyr Met Lys Phe Phe Asp Asn Leu  
290 295 300

```
<210> 14
<211> 968
<212> DNA
<213> Glycine max
```

```
<210> 15
<211> 259
<212> PRT
<213> Glycine max
```

85								90				95			
Leu	Ile	Asp	Thr	Val	Arg	Asp	Leu	Val	Ile	Ser	Arg	Gly	Leu	Asn	Leu
			100										110		
Ile	Ile	Glu	Pro	Gly	Arg	Ser	Leu	Ile	Ala	Asn	Thr	Cys	Cys	Leu	Val
		115					120					125			
Asn	Arg	Val	Thr	Gly	Val	Lys	Thr	Asn	Gly	Ser	Lys	Asn	Phe	Ile	Val
	130					135					140				
Ile	Asp	Gly	Ser	Met	Ala	Glu	Leu	Ile	Arg	Pro	Ser	Leu	Tyr	Asp	Ala
145					150					155					160
Tyr	Gln	His	Ile	Glu	Leu	Val	Ser	Pro	Ala	Pro	Ser	Asn	Ala	Glu	Thr
				165					170					175	
Glu	Thr	Phe	Asp	Val	Val	Gly	Pro	Val	Cys	Glu	Ser	Ala	Asp	Phe	Leu
			180						185				190		
Gly	Lys	Gly	Arg	Glu	Leu	Pro	Thr	Pro	Ala	Lys	Gly	Thr	Gly	Leu	Val
		195					200					205			
Val	His	Asp	Ala	Gly	Ala	Tyr	Cys	Met	Ser	Met	Ala	Ser	Thr	Tyr	Asn
	210					215					220				
Leu	Lys	Met	Arg	Pro	Pro	Glu	Tyr	Trp	Val	Glu	Asp	Asp	Gly	Ser	Val
225					230					235					240
Ser	Lys	Ile	Arg	His	Gly	Glu	Thr	Phe	Glu	Asp	His	Ile	Arg	Phe	Phe
				245					250					255	

Glu Gly Leu

<210> 16  
 <211> 676  
 <212> DNA  
 <213> Triticum aestivum

<220>  
 <221> unsure  
 <222> (373)  
 <223> n = A, C, G or T

<220>  
 <221> unsure  
 <222> (406)  
 <223> n = A, C, G or T

<220>  
 <221> unsure  
 <222> (430)  
 <223> n = A, C, G or T

<220>  
 <221> unsure  
 <222> (433)  
 <223> n = A, C, G or T

<220>

<221> unsure  
<222> (455)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (494)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (504)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (553)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (579)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (583)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (595) .. (596)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (620)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (639)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (644)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (650)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (661)  
<223> n = A, C, G or T

<220>  
<221> unsure

<222> (673)  
<223> n = A, C, G or T

<400> 16  
tttgagttgg agtacctgaa tattggaggt ggtttgggga tagactacca ccacactggt 60  
gcagtcttgc ctacacctat ggatcttata aacactgtcc ggggaattggt cctctcacgg 120  
gatcttactc tcattattga acctggaaga tccctgatcg ccaatacttg ctgcttcgtc 180  
aataaggtca ctggtgtaaa atcgaatggc acgaagaatt tcattgtagt tgatggcagc 240  
atggccgagc tcatcaggcc tagtctatat ggagcatatc agcatataga actagttctc 300  
cctctccaag gtgcagaagt agcaaccttc cgatattggt ggggccagtc tgcgaatctg 360  
cagattcctt ggnaaagaca aggagttcca acacctgaca aggganctgg tttgggtgtc 420  
cacgacgcan ganctactgc atgagcatgg cttcnaccta caacctgaag atgaggcaac 480  
cgagtattgg gtanaggaca tggncatgt aagataagca cggggaaaca ttgacgacac 540  
atgagtcttg atngctccgc caggccttta ctggttggna acnagcttca ttgtnnccac 600  
cgtggaatct gggaacatcn tgtttagtg gcaccacana gggnttttgn gacaatcaca 660  
ntagatgaga ttntgg 676

<210> 17  
<211> 73  
<212> PRT  
<213> Triticum aestivum

<400> 17  
Pro Thr Pro Met Asp Leu Ile Asn Thr Val Arg Glu Leu Val Leu Ser  
1 5 10 15  
Arg Asp Leu Thr Leu Ile Ile Glu Pro Gly Arg Ser Leu Ile Ala Asn  
20 25 30  
Thr Cys Cys Phe Val Asn Lys Val Thr Gly Val Lys Ser Asn Gly Thr  
35 40 45  
Lys Asn Phe Ile Val Val Asp Gly Ser Met Ala Glu Leu Ile Arg Pro  
50 55 60  
Ser Leu Tyr Gly Ala Tyr Gln His Ile  
65 70

<210> 18  
<211> 544  
<212> DNA  
<213> Glycine max

<220>  
<221> unsure  
<222> (465)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (524)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (537)  
<223> n = A, C, G or T

```

<400> 18
ttgcaacaca cattgtcttg tcggcaaaat cttccaccaa caacacacag ccatggcagg      60
ctcaaacatt ctttctcact ctccttccct tcccaaaacc tacagccact ccttaaacca      120
aaacgcgtta tcccaaaagc ttttttttct gccctcaaaa ttcaaagcca ccacaaaacc      180
acgtgctctc agagcgggtc tctcgcagaa cgctgtcaaa acctcggtgg aggacacaaa      240
gaacgctcat tttcagcact gtttcaccaa atccgaagat gggatatctgt actgtgaggg      300
cctcaagggtg catgacatca tggaatctgt tgagagaaga cttttctatt tgtacagcaa      360
gccccagata actaggaatg ttgaagccta caaggatgca ttggaagggt tgaactccat      420
aattggttat gccattaagg ccaataataa cttgaagatt ttggnacatt tgaggcactt      480
gggttggtgg gctgtgcttg ttagtgggaa tgagctgaag ttgntcttcg agctggnttt      540
gttc

```

```

<210> 19
<211> 62
<212> PRT
<213> Glycine max

```

```

<220>
<221> UNSURE
<222> (44)
<223> Xaa = ANY AMINO ACID

```

```

<400> 19
Arg Arg Pro Phe Tyr Leu Tyr Ser Lys Pro Gln Ile Thr Arg Asn Val
1          5          10          15
Glu Ala Tyr Lys Asp Ala Leu Glu Gly Leu Asn Ser Ile Ile Gly Tyr
20          25          30
Ala Ile Lys Ala Asn Asn Asn Leu Lys Ile Leu Xaa His Leu Arg His
35          40          45
Leu Gly Cys Gly Ala Val Leu Val Ser Gly Asn Glu Leu Lys
50          55          60

```

```

<210> 20
<211> 371
<212> PRT
<213> Pseudomonas aeruginosa

```

```

<400> 20
Met Lys Arg Val Gly Leu Ile Gly Trp Arg Gly Met Val Gly Ser Val
1          5          10          15
Leu Ile Gln Arg Met Leu Glu Glu Arg Asp Phe Asp Leu Ile Glu Pro
20          25          30
Val Phe Phe Thr Thr Ser Asn Val Gly Ala Gln Ala Pro Glu Val Asp
35          40          45
Lys Asp Ile Ala Pro Leu Lys Asp Ala Tyr Ser Ile Asp Glu Leu Lys
50          55          60
Thr Leu Asp Val Ile Leu Thr Cys Gln Gly Gly Asp Tyr Thr Ser Glu
65          70          75          80
Val Phe Pro Lys Leu Arg Glu Ala Gly Trp Gln Gly Tyr Trp Ile Asp
85          90          95
Ala Ala Ser Ser Leu Arg Met Glu Asp Asp Ala Val Ile Val Leu Asp

```

100					105					110					
Pro	Val	Asn	Arg	Lys	Val	Ile	Asp	Gln	Ala	Leu	Asp	Ala	Gly	Thr	Arg
		115					120					125			
Asn	Tyr	Ile	Gly	Gly	Asn	Cys	Thr	Val	Ser	Leu	Met	Leu	Met	Ala	Leu
	130					135					140				
Gly	Gly	Leu	Phe	Asp	Ala	Gly	Leu	Val	Glu	Trp	Met	Ser	Ala	Met	Thr
145					150					155					160
Tyr	Gln	Ala	Ala	Ser	Gly	Ala	Gly	Ala	Gln	Asn	Met	Arg	Asp	Leu	Leu
				165					170					175	
Lys	Gln	Met	Gly	Ala	Ala	His	Ala	Ser	Val	Ala	Asp	Asp	Leu	Ala	Asn
			180					185					190		
Pro	Ala	Ser	Ala	Ile	Leu	Asp	Ile	Asp	Arg	Lys	Val	Ala	Glu	Thr	Leu
		195					200					205			
Arg	Ser	Glu	Ala	Phe	Pro	Thr	Glu	His	Phe	Gly	Ala	Pro	Leu	Gly	Gly
	210					215					220				
Ser	Leu	Ile	Pro	Trp	Ile	Asp	Lys	Glu	Leu	Ser	Gln	Arg	Arg	Gln	Ser
225					230					235					240
Arg	Glu	Glu	Trp	Lys	Ala	Gln	Ala	Glu	Thr	Asn	Lys	Ile	Leu	Ala	Arg
				245					250					255	
Phe	Lys	Asn	Pro	Ile	Pro	Val	Asp	Gly	Ile	Cys	Val	Arg	Val	Gly	Ala
			260					265					270		
Met	Arg	Cys	His	Ser	Gln	Ala	Leu	Thr	Ile	Lys	Leu	Asn	Lys	Asp	Val
		275					280					285			
Pro	Leu	Thr	Asp	Ile	Glu	Gly	Leu	Ile	Arg	Gln	His	Asn	Pro	Trp	Val
	290					295					300				
Lys	Leu	Val	Pro	Asn	His	Arg	Glu	Val	Ser	Val	Arg	Glu	Leu	Thr	Pro
305				310						315					320
Ala	Ala	Val	Thr	Gly	Thr	Leu	Ser	Val	Pro	Val	Gly	Arg	Leu	Arg	Lys
				325					330					335	
Leu	Asn	Met	Val	Ser	Gln	Tyr	Leu	Gly	Ala	Phe	Thr	Val	Gly	Asp	Gln
			340					345					350		
Leu	Leu	Trp	Gly	Ala	Ala	Glu	Pro	Leu	Arg	Arg	Met	Leu	Arg	Ile	Leu
		355					360					365			
Leu	Glu	Arg													
	370														

<210> 21  
 <211> 788  
 <212> DNA  
 <213> Zea mays

<400> 21  
 cgacaacatc gcccccgcca tcctcggcgg ctctcgtctc gtccgcagct acgaccctt 60  
 tcacctcgtc ccgctttcct tcccgcagc gctccgcctc cacttcgtcc tggtcacccc 120



cgacttcgag	gcgccacga	gcaagatgcg	cgccgcgctg	cccaggcagg	tcgacgtcca	180
gcagcacgtg	cgcaactcca	gccaggcagc	ggcgctcgtg	gcggcggtgc	tgcaggggga	240
cgcgggcctc	atcggtccg	cgatgtcgtc	cgacggcatc	gtggagccca	ccagggcacc	300
cctcatacct	ggcatggcgg	ccgtaaaggc	ggcggccctg	caagctggag	cgctgggctg	360
cacaattagc	ggcgcgggcc	ccacagtggg	ggccgtcatc	caaggggagg	aaagggggga	420
ggaggttgcc	cgcaagatgg	tggacgcgtt	ctggagcgca	ggcaagctca	aggcgacagc	480
aaccgtcgcg	cagctcgata	cccttggtgc	cagggtcatc	gccacgtcat	ccttgaacta	540
gcaaaagatt	cggaaagtgg	tactgcaatt	gtatcaccaa	acaaggaaga	atgaagggga	600
accccatgga	tttgtatggt	ttctcttctt	tcttgcattc	ttaggtgggt	aattggcttt	660
ggaataaatg	agatggagga	catcgctaga	acaattctgt	tccgtgggct	gtaatttcaa	720
tttgggctgg	tttctttatc	atgccatgga	taattatgaa	taaatttgag	gtagtttggt	780
aaaaaaaa						788

<210> 22  
 <211> 179  
 <212> PRT  
 <213> Zea mays

<400> 22  
 Asp Asn Ile Ala Pro Ala Ile Leu Gly Gly Phe Val Leu Val Arg Ser  
 1 5 10 15  
 Tyr Asp Pro Phe His Leu Val Pro Leu Ser Phe Pro Pro Ala Leu Arg  
 20 25 30  
 Leu His Phe Val Leu Val Thr Pro Asp Phe Glu Ala Pro Thr Ser Lys  
 35 40 45  
 Met Arg Ala Ala Leu Pro Arg Gln Val Asp Val Gln Gln His Val Arg  
 50 55 60  
 Asn Ser Ser Gln Ala Ala Ala Leu Val Ala Ala Val Leu Gln Gly Asp  
 65 70 75 80  
 Ala Gly Leu Ile Gly Ser Ala Met Ser Ser Asp Gly Ile Val Glu Pro  
 85 90 95  
 Thr Arg Ala Pro Leu Ile Pro Gly Met Ala Ala Val Lys Ala Ala Ala  
 100 105 110  
 Leu Gln Ala Gly Ala Leu Gly Cys Thr Ile Ser Gly Ala Gly Pro Thr  
 115 120 125  
 Val Val Ala Val Ile Gln Gly Glu Glu Arg Gly Glu Glu Val Ala Arg  
 130 135 140  
 Lys Met Val Asp Ala Phe Trp Ser Ala Gly Lys Leu Lys Ala Thr Ala  
 145 150 155 160  
 Thr Val Ala Gln Leu Asp Thr Leu Gly Ala Arg Val Ile Ala Thr Ser  
 165 170 175

Ser Leu Asn

<210> 23  
 <211> 601  
 <212> DNA  
 <213> Oryza sativa

<220>

<221> unsure  
<222> (433)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (600)  
<223> n = A, C, G or T

<400> 23  
gtcgccgcca tcgctgccct tcgcgccctc gatgtcaagt cccacgccgt ctccatccac 60  
ctcaccaagg gcctccccct cggctccggc ctcggtcctt ccgccgcctc cgccgcccgc 120  
gctgcccaagg ccgttgacgc cctcttcggc tccctcctac accaagatga cctcgtcctc 180  
gcgggcctcg agtccgagaa agccgtcagt ggcttccacg ccgacaacat cgccccggcc 240  
atcctcggcg gcttcgtcct cgtccgcagc tacgaccctt tccacctcat cccgctctcc 300  
tccccacctg ccctccgcct ccacttcgtc ctcgtcacgc ccgacttcga ggcgcccacc 360  
aagcaagatg cgtgccgcgc tgcccaaaca ggtggccgct caccaagcac gtccgcaact 420  
ccagccaagc ggnccgcgctt gtcgccgctg tgctgcaagg ggacgccacc ctcatcggt 480  
ccgcaatgtc ctccgacggc atcgtggagc caacaaggcg ccgctgattc tggatggctg 540  
cgggtcaaagg cgccggcctt gaactggggg aattggctgc acatcagtgg agaaggcaan 600  
t 601

<210> 24  
<211> 82  
<212> PRT  
<213> Oryza sativa

<220>  
<221> UNSURE  
<222> (56) (57)  
<223> Xaa = ANY AMINO ACID

<400> 24  
Val Ser Ile His Leu Thr Lys Gly Leu Pro Leu Gly Ser Gly Leu Gly  
1 5 10 15  
Ser Ser Ala Ala Ser Ala Ala Ala Ala Lys Ala Val Asp Ala Leu  
20 25 30  
Phe Gly Ser Leu Leu His Gln Asp Asp Leu Val Leu Ala Gly Leu Glu  
35 40 45  
Ser Glu Lys Ala Val Ser Gly Xaa Xaa His Ala Asp Asn Ile Ala Pro  
50 55 60  
Ala Ile Leu Gly Gly Phe Val Leu Val Arg Ser Tyr Asp Pro Phe His  
65 70 75 80  
Leu Ile

<210> 25  
<211> 1543  
<212> DNA  
<213> Glycine max

<400> 25  
gaagagagac aaaccagcaa gagtggagat ggccgacgtcg acgtgcttcc tgtgtccgtc 60  
tacggcgagt ttgaaaggca gggccagatt cagaatcaga atcagatgca gcagcagcgt 120  
gtcgggtcaat attcgaaggg agcccgaacc tgtaacgacg ctggtgaaag cgtttgctcc 180  
cgccacgggtg gcgaatctag gtccaggctt cgacttccta ggctgcgccg tggacggact 240

cggagacatt	gtgtcgggtga	aggttgaccc	acaggttcac	cctggcgaga	tatgcatatc	300
cgacatcagc	ggccacgccc	caaacaagct	cagcaaaaac	cctctctgga	actgcgccgg	360
catcgccgcc	attgaagtca	tgaaaatgct	ctccattcga	tccgtcggcc	tctccctctc	420
cctggagaag	ggcctgcctt	tgggaagcgg	tctgggatcc	agcgccgcca	gcgccgccgc	480
ggccgccgtg	gcggtgaacg	agctgtttgg	gaagaaatta	agcgtggagg	agctggttct	540
ggcatcactg	aaatcggaag	agaagggtgc	gggggtatcac	gcggacaacg	tggcgccatc	600
gataatgggg	ggttttgtgc	tgatcgggag	ctactcgccg	ctggagttga	tgccgttgaa	660
gtttccggca	gagaaggagc	tgtatttcgt	gctgggtgacg	cctgagttcg	aggccccgac	720
gaagaagatg	cgggcagcgc	tgccctacgga	gatcgggatg	ccgcaccacg	tgtggaactg	780
cagccaggca	ggtgctctgg	tggcgtcggg	gctgcagggc	gacgtgggtg	ggttggggaa	840
ggcattgtcc	tctgacaaga	tcgttgagcc	aaggcgtgcc	cccttgattc	ctggcatgga	900
ggctgtcaag	agggctgcca	ttcaggcccg	tgcttttggc	tgtaccatca	gcggcgccgg	960
ccctaccgcc	gtcgccgtca	ttgacgacga	gcaaactgga	cacctcattg	ccaaacacat	1020
gattgacgct	tttctccatg	ttggcaattt	gaaggcttct	gcaaatgtca	agcagcttga	1080
tcgccttggt	gctagacgca	ttccaaattg	aaccttctct	tctctatctc	tatgagaggc	1140
ttgtagatth	caagaaccgg	atttcttcca	acttgctcgt	aacactctaa	gtgctgaccg	1200
gtcacatgta	tttgaaattt	gatctgatca	atgaagcagc	attctagtgt	ggaggtctga	1260
ataacaagag	aaacattaaa	ccaagctggg	gagctctgtt	tgggtgggtg	aaatttaaat	1320
agatgaataa	ttatgaaaga	cctagatcag	gtcagtgtta	tgggtgaactc	tgaagcatgt	1380
tttagattht	ctttgctttg	tttttatcat	atthttatct	tgctacttga	gttgacaaag	1440
ctcaaaaaga	agtcatttht	agtatthttct	tgthttcatta	tgctagttaa	tcttagctth	1500
tgaatagcat	gtattgttcc	ttaaaaaaa	aaaaaaaaa	aaa		1543

<210> 26  
 <211> 483  
 <212> PRT  
 <213> Glycine max

<400> 26  
 Met Ala Thr Ser Thr Cys Phe Leu Cys Pro Ser Thr Ala Ser Leu Lys  
 1 5 10 15

Gly Arg Ala Arg Phe Arg Ile Arg Ile Arg Cys Ser Ser Ser Val Ser  
 20 25 30

Val Asn Ile Arg Arg Glu Pro Glu Pro Val Thr Thr Leu Val Lys Ala  
 35 40 45

Phe Ala Pro Ala Thr Val Ala Asn Leu Gly Pro Gly Phe Asp Phe Leu  
 50 55 60

Gly Cys Ala Val Asp Gly Leu Gly Asp Ile Val Ser Val Lys Val Asp  
 65 70 75 80

Pro Gln Val His Pro Gly Glu Ile Cys Ile Ser Asp Ile Ser Gly His  
 85 90 95

Ala Pro Asn Lys Leu Ser Lys Asn Pro Leu Trp Asn Cys Ala Gly Ile  
 100 105 110

Ala Ala Ile Glu Val Met Lys Met Leu Ser Ile Arg Ser Val Gly Leu  
 115 120 125

Ser Leu Ser Leu Glu Lys Gly Leu Pro Leu Gly Ser Gly Leu Gly Ser  
 130 135 140

Ser Ala Ala Ser Ala Ala Ala Ala Val Ala Val Asn Glu Leu Phe  
 145 150 155 160

Gly Lys Lys Leu Ser Val Glu Glu Leu Val Leu Ala Ser Leu Lys Ser

				165				170				175			
Glu	Glu	Lys	Val	Ser	Gly	Tyr	His	Ala	Asp	Asn	Val	Ala	Pro	Ser	Ile
180								185				190			
Met	Gly	Gly	Phe	Val	Leu	Ile	Gly	Ser	Tyr	Ser	Pro	Leu	Glu	Leu	Met
195								200				205			
Pro	Leu	Lys	Phe	Pro	Ala	Glu	Lys	Glu	Leu	Tyr	Phe	Val	Leu	Val	Thr
210								215				220			
Pro	Glu	Phe	Glu	Ala	Pro	Thr	Lys	Lys	Met	Arg	Ala	Ala	Leu	Pro	Thr
225								230				235			
Glu	Ile	Gly	Met	Pro	His	His	Val	Trp	Asn	Cys	Ser	Gln	Ala	Gly	Ala
				245				250				255			
Leu	Val	Ala	Ser	Val	Leu	Gln	Gly	Asp	Val	Val	Gly	Leu	Gly	Lys	Ala
				260				265				270			
Leu	Ser	Ser	Asp	Lys	Ile	Val	Glu	Pro	Arg	Arg	Ala	Pro	Leu	Ile	Pro
				275				280				285			
Gly	Met	Glu	Ala	Val	Lys	Arg	Ala	Ala	Ile	Gln	Ala	Gly	Ala	Phe	Gly
290								295				300			
Cys	Thr	Ile	Ser	Gly	Ala	Gly	Pro	Thr	Ala	Val	Ala	Val	Ile	Asp	Asp
305								310				315			
Glu	Gln	Thr	Gly	His	Leu	Ile	Ala	Lys	His	Met	Ile	Asp	Ala	Phe	Leu
				325				330				335			
His	Val	Gly	Asn	Leu	Lys	Ala	Ser	Ala	Asn	Val	Lys	Gln	Leu	Asp	Arg
				340				345				350			
Leu	Gly	Ala	Arg	Arg	Ile	Pro	Asn	Thr	Phe	Ser	Ser	Leu	Ser	Leu	Glu
				355				360				365			
Ala	Cys	Arg	Phe	Gln	Glu	Pro	Asp	Phe	Phe	Gln	Leu	Ala	Arg	Asn	Thr
370								375				380			
Leu	Ser	Ala	Asp	Arg	Ser	His	Val	Phe	Glu	Ile	Ser	Asp	Gln	Ser	Ser
385								390				395			
Ile	Leu	Val	Trp	Arg	Ser	Glu	Gln	Glu	Lys	His	Thr	Gln	Ala	Gly	Ser
				405				410				415			
Ser	Val	Trp	Val	Val	Glu	Ile	Ile	Asp	Glu	Leu	Lys	Thr	Ile	Arg	Ser
				420				425				430			
Val	Leu	Trp	Thr	Leu	Lys	His	Val	Leu	Asp	Phe	Leu	Cys	Phe	Val	Phe
				435				440				445			
Ile	Ile	Phe	Leu	Ser	Cys	Tyr	Leu	Ser	Gln	Ser	Ser	Lys	Arg	Ser	His
450								455				460			
Phe	Tyr	Phe	Leu	Val	Ser	Leu	Cys	Leu	Ile	Leu	Ala	Phe	Glu	His	Val
465								470				475			
Leu	Phe	Leu													

<210> 27  
 <211> 438  
 <212> DNA  
 <213> Triticum aestivum

<220>  
 <221> unsure  
 <222> (271)  
 <223> n = A, C, G or T

<220>  
 <221> unsure  
 <222> (421)  
 <223> n = A, C, G or T

<220>  
 <221> unsure  
 <222> (425)  
 <223> n = A, C, G or T

<400> 27  
 ctcgagtcgg agaaggccgt cagcggcttc cacgccgaca acatcgcccc cgccatcctc 60  
 ggcggtctcg tcctcgtccg cagctacgac ccctttcacc tcgtcccgtt ttccttcccg 120  
 ccagcgctcc gcctccactt cgtcctgggtc acccccgact tcgaggcgcc cacgagcaag 180  
 atgcgcgccc cgctgcccag gcaggtcgac gtccagcagc acgtgcgcaa ctccagccag 240  
 gcagcggcgc tccgtggcgg cgggtgctgca nggggacgcc gggctcatcg gtccgcgatt 300  
 tctccgacgg gcatcgtgga cccaccaagg aaccctcata cctggcatgg cggccgtaaa 360  
 ggcggcggcc tgcaactgga cgctgggtgc acattaacgg gcgggcccac atggtggctc 420  
 ncagngaaga gaggggag 438

<210> 28  
 <211> 84  
 <212> PRT  
 <213> Triticum aestivum

<400> 28  
 Leu Glu Ser Glu Lys Ala Val Ser Gly Phe His Ala Asp Asn Ile Ala  
 1 5 10 15  
 Pro Ala Ile Leu Gly Gly Phe Val Leu Val Arg Ser Tyr Asp Pro Phe  
 20 25 30  
 His Leu Val Pro Leu Ser Phe Pro Pro Ala Leu Arg Leu His Phe Val  
 35 40 45  
 Leu Val Thr Pro Asp Phe Glu Ala Pro Thr Ser Lys Met Arg Ala Ala  
 50 55 60  
 Leu Pro Arg Gln Val Asp Val Gln Gln His Val Arg Asn Ser Ser Gln  
 65 70 75 80  
 Ala Ala Ala Leu

<210> 29  
 <211> 300  
 <212> PRT  
 <213> Methanococcus jannashii

<400> 29

Met	Arg	Glu	Ile	Met	Lys	Val	Arg	Val	Lys	Ala	Pro	Cys	Thr	Ser	Ala	1	5	10	15
Asn	Leu	Gly	Val	Gly	Phe	Asp	Val	Phe	Gly	Leu	Cys	Leu	Lys	Glu	Pro	20	25	30	
Tyr	Asp	Val	Ile	Glu	Val	Glu	Ala	Ile	Asp	Asp	Lys	Glu	Ile	Ile	Ile	35	40	45	
Glu	Val	Asp	Asp	Lys	Asn	Ile	Pro	Thr	Asp	Pro	Asp	Lys	Asn	Val	Ala	50	55	60	
Gly	Ile	Val	Ala	Lys	Lys	Met	Ile	Asp	Asp	Phe	Asn	Ile	Gly	Lys	Gly	65	70	75	80
Val	Lys	Ile	Thr	Ile	Lys	Lys	Gly	Val	Lys	Ala	Gly	Ser	Gly	Leu	Gly	85	90	95	
Ser	Ser	Ala	Ala	Ser	Ser	Ala	Gly	Thr	Ala	Tyr	Ala	Ile	Asn	Glu	Leu	100	105	110	
Phe	Lys	Leu	Asn	Leu	Asp	Lys	Leu	Lys	Leu	Val	Asp	Tyr	Ala	Ser	Tyr	115	120	125	
Gly	Glu	Leu	Ala	Ser	Ser	Gly	Ala	Lys	His	Ala	Asp	Asn	Val	Ala	Pro	130	135	140	
Ala	Ile	Phe	Gly	Gly	Phe	Thr	Met	Val	Thr	Asn	Tyr	Glu	Pro	Leu	Glu	145	150	155	160
Val	Leu	His	Ile	Pro	Ile	Asp	Phe	Lys	Leu	Asp	Ile	Leu	Ile	Ala	Ile	165	170	175	
Pro	Asn	Ile	Ser	Ile	Asn	Thr	Lys	Glu	Ala	Arg	Glu	Ile	Leu	Pro	Lys	180	185	190	
Ala	Val	Gly	Leu	Lys	Asp	Leu	Val	Asn	Asn	Val	Gly	Lys	Ala	Cys	Gly	195	200	205	
Met	Val	Tyr	Ala	Leu	Tyr	Asn	Lys	Asp	Lys	Ser	Leu	Phe	Gly	Arg	Tyr	210	215	220	
Met	Met	Ser	Asp	Lys	Val	Ile	Glu	Pro	Val	Arg	Gly	Lys	Leu	Ile	Pro	225	230	235	240
Asn	Tyr	Phe	Lys	Ile	Lys	Glu	Glu	Val	Lys	Asp	Lys	Val	Tyr	Gly	Ile	245	250	255	
Thr	Ile	Ser	Gly	Ser	Gly	Pro	Ser	Ile	Ile	Ala	Phe	Pro	Lys	Glu	Glu	260	265	270	
Phe	Ile	Asp	Glu	Val	Glu	Asn	Ile	Leu	Arg	Asp	Tyr	Tyr	Glu	Asn	Thr	275	280	285	
Ile	Arg	Thr	Glu	Val	Gly	Lys	Gly	Val	Glu	Val	Val	290	295	300					

<210> 30  
 <211> 1362  
 <212> DNA

<213> Glycine max

<400> 30

actttgtagt	tcgtagatag	ccgatgtgct	tgtcttagtg	tgtcagtcac	tcctgttcct	60
caagtcaagc	tttgtagtga	gcagatatata	tggctgttga	aagggtccgga	attgccaaag	120
atgttacgga	attgattggt	aaaaccccat	tagtatatct	aaataaactt	gcggatgggt	180
gtgttgcccc	ggttgctgct	aaactggagt	tgatggagcc	atgctctagt	gtgaaggaca	240
ggattgggta	tagtatgatt	gctgatgcag	aagagaaggg	acttatcaca	cctggaaaga	300
gtgtcctcat	tgagccaaca	agtggtaata	ctggcattgg	attagccttc	atggcagcag	360
ccaggggtta	caagctcata	attacaatgc	ctgcttctat	gagtcttgag	agaagaatca	420
ttctattagc	ttttggagct	gagttgggtc	tgacagatcc	tgctaaggga	atgaaagggtg	480
ctgttcagaa	ggctgaagag	atattggcta	agacgcccaa	tgcttacata	cttcaacaat	540
ttgaaaaccc	tgccaatccc	aagggttcatt	atgaaaccac	tggtccagag	atatggaaag	600
gctccgatgg	gaaaattgat	gcattttgtt	ctgggatagg	cactgggtgg	acaataacag	660
gtgctggaaa	atatcttaaa	gagcagaatc	cgaatataaa	gctgattggt	gtggaaccag	720
ttgaaagtcc	agtgtctctca	ggaggaaagc	ctgggtccaca	caagattcaa	gggattgggtg	780
ctgggttttat	ccctgggtgtc	ttggaagtca	atcttcttga	tgaagttgtt	caaatatcaa	840
gtgatgaagc	aatagaaact	gcaaagcttc	ttgcgcttaa	agaaggccta	tttgtgggaa	900
tatcttccgg	agctgcagct	gctgctgctt	ttcagattgc	aaaaagacca	gaaaatgccg	960
ggaagcttat	tggtgccggt	tttcccagct	tcggggagag	gtacctgtcc	tccgtgctat	1020
ttgagtcagt	gagacgcgaa	gctgaaagca	tgacttttga	gccctgaatt	cccgtttaag	1080
gctctcacta	ctgaattttc	ttgttacttg	taccaggctt	taactagatt	gtagagtagt	1140
tactgtttgt	gactctgact	ctaaaataaa	acttgctcca	aaagactagt	ttttcttgat	1200
gcccctggag	cgataatttt	gtgcctgcaa	cattaaaaag	tattcaaagt	tgcttataag	1260
taacatgttt	catcttttgt	tggtgttgag	acgaacacgg	atgaggtcat	aatactatgt	1320
ttctgatttc	ctttggtagg	gaaaaaaaaa	aaaaaaaaaa	aa		1362

<210> 31

<211> 325

<212> PRT

<213> Glycine max

<400> 31

Met	Ala	Val	Glu	Arg	Ser	Gly	Ile	Ala	Lys	Asp	Val	Thr	Glu	Leu	Ile
1				5					10					15	
Gly	Lys	Thr	Pro	Leu	Val	Tyr	Leu	Asn	Lys	Leu	Ala	Asp	Gly	Cys	Val
			20					25					30		
Ala	Arg	Val	Ala	Ala	Lys	Leu	Glu	Leu	Met	Glu	Pro	Cys	Ser	Ser	Val
		35					40					45			
Lys	Asp	Arg	Ile	Gly	Tyr	Ser	Met	Ile	Ala	Asp	Ala	Glu	Glu	Lys	Gly
	50					55				60					
Leu	Ile	Thr	Pro	Gly	Lys	Ser	Val	Leu	Ile	Glu	Pro	Thr	Ser	Gly	Asn
65					70					75					80
Thr	Gly	Ile	Gly	Leu	Ala	Phe	Met	Ala	Ala	Ala	Arg	Gly	Tyr	Lys	Leu
				85				90						95	
Ile	Ile	Thr	Met	Pro	Ala	Ser	Met	Ser	Leu	Glu	Arg	Arg	Ile	Ile	Leu
			100					105					110		
Leu	Ala	Phe	Gly	Ala	Glu	Leu	Val	Leu	Thr	Asp	Pro	Ala	Lys	Gly	Met
	115						120					125			
Lys	Gly	Ala	Val	Gln	Lys	Ala	Glu	Glu	Ile	Leu	Ala	Lys	Thr	Pro	Asn
	130					135					140				
Ala	Tyr	Ile	Leu	Gln	Gln	Phe	Glu	Asn	Pro	Ala	Asn	Pro	Lys	Val	His

145					150					155				160	
Tyr	Glu	Thr	Thr	Gly	Pro	Glu	Ile	Trp	Lys	Gly	Ser	Asp	Gly	Lys	Ile
				165					170					175	
Asp	Ala	Phe	Val	Ser	Gly	Ile	Gly	Thr	Gly	Gly	Thr	Ile	Thr	Gly	Ala
			180					185					190		
Gly	Lys	Tyr	Leu	Lys	Glu	Gln	Asn	Pro	Asn	Ile	Lys	Leu	Ile	Gly	Val
		195					200					205			
Glu	Pro	Val	Glu	Ser	Pro	Val	Leu	Ser	Gly	Gly	Lys	Pro	Gly	Pro	His
	210					215					220				
Lys	Ile	Gln	Gly	Ile	Gly	Ala	Gly	Phe	Ile	Pro	Gly	Val	Leu	Glu	Val
225					230					235					240
Asn	Leu	Leu	Asp	Glu	Val	Val	Gln	Ile	Ser	Ser	Asp	Glu	Ala	Ile	Glu
				245					250					255	
Thr	Ala	Lys	Leu	Leu	Ala	Leu	Lys	Glu	Gly	Leu	Phe	Val	Gly	Ile	Ser
			260					265					270		
Ser	Gly	Ala	Ala	Ala	Ala	Ala	Ala	Phe	Gln	Ile	Ala	Lys	Arg	Pro	Glu
		275					280					285			
Asn	Ala	Gly	Lys	Leu	Ile	Val	Ala	Val	Phe	Pro	Ser	Phe	Gly	Glu	Arg
	290					295					300				
Tyr	Leu	Ser	Ser	Val	Leu	Phe	Glu	Ser	Val	Arg	Arg	Glu	Ala	Glu	Ser
305					310					315					320

Met Thr Phe Glu Pro  
325

<210> 32  
 <211> 325  
 <212> PRT  
 <213> Citrullus lanatus

<400> 32  
 Met Ala Asp Ala Lys Ser Thr Ile Ala Lys Asp Val Thr Glu Leu Ile  
 1 5 10 15  
 Gly Asn Thr Pro Leu Val Tyr Leu Asn Arg Val Val Asp Gly Cys Val  
 20 25 30  
 Ala Arg Val Ala Ala Lys Leu Glu Met Met Glu Pro Cys Ser Ser Val  
 35 40 45  
 Lys Asp Arg Ile Gly Tyr Ser Met Ile Ser Asp Ala Glu Asn Lys Gly  
 50 55 60  
 Leu Ile Thr Pro Gly Glu Ser Val Leu Ile Glu Pro Thr Ser Gly Asn  
 65 70 75 80  
 Thr Gly Ile Gly Leu Ala Phe Ile Ala Ala Ala Lys Gly Tyr Arg Leu  
 85 90 95  
 Ile Ile Cys Met Pro Ala Ser Met Ser Leu Glu Arg Arg Thr Ile Leu  
 100 105 110



Arg	Ala	Phe	Gly	Ala	Glu	Leu	Val	Leu	Thr	Asp	Pro	Ala	Arg	Gly	Met	
	115						120					125				
Lys	Gly	Ala	Val	Gln	Lys	Ala	Glu	Glu	Ile	Lys	Ala	Lys	Thr	Pro	Asn	
	130					135					140					
Ser	Tyr	Ile	Leu	Gln	Gln	Phe	Glu	Asn	Pro	Ala	Asn	Pro	Lys	Ile	His	
145				150					155						160	
Tyr	Glu	Thr	Thr	Gly	Pro	Glu	Ile	Trp	Arg	Gly	Ser	Gly	Gly	Lys	Ile	
				165					170					175		
Asp	Ala	Leu	Val	Ser	Gly	Ile	Gly	Thr	Gly	Gly	Thr	Val	Thr	Gly	Ala	
		180						185						190		
Gly	Lys	Tyr	Leu	Lys	Glu	Gln	Asn	Pro	Asn	Ile	Lys	Leu	Tyr	Gly	Val	
	195						200					205				
Glu	Pro	Val	Glu	Ser	Ala	Ile	Leu	Ser	Gly	Gly	Lys	Pro	Gly	Pro	His	
	210					215					220					
Lys	Ile	Gln	Gly	Ile	Gly	Ala	Gly	Phe	Ile	Pro	Gly	Val	Leu	Asp	Val	
225					230					235					240	
Asn	Leu	Leu	Asp	Glu	Val	Ile	Gln	Val	Ser	Ser	Glu	Glu	Ser	Ile	Glu	
			245						250					255		
Thr	Ala	Lys	Leu	Leu	Ala	Leu	Lys	Glu	Gly	Leu	Leu	Val	Gly	Ile	Ser	
		260						265					270			
Ser	Gly	Ala	Ala	Ala	Ala	Ala	Ala	Ile	Arg	Ile	Ala	Lys	Arg	Pro	Glu	
	275						280					285				
Asn	Ala	Gly	Lys	Leu	Ile	Val	Ala	Val	Phe	Pro	Ser	Phe	Gly	Glu	Arg	
	290					295					300					
Tyr	Leu	Ser	Thr	Val	Leu	Phe	Glu	Ser	Val	Lys	Arg	Glu	Thr	Glu	Asn	
305					310					315					320	
Met	Val	Phe	Glu	Pro												
				325												

<210> 33  
 <211> 789  
 <212> DNA  
 <213> Zea mays

<400> 33

atagcgcatt	ctcatggtgc	tcttgttttg	gttgacaaca	gcatcatgtc	tccagtgtc	60
tcccgctcta	tagaactggg	agctgatatc	gtgatgcact	cggctaccaa	atttatagcg	120
ggacatagtg	atcttatggc	tggaattcct	gcagtgaagg	gtgagagttt	ggctaaagag	180
gtagggtttc	tgcaaaatgc	tgaagggtcg	ggctctggcac	cttttgactg	ctggctttgc	240
ttgaggggaa	tcaaaaccat	ggctctgcgg	gtggagaaac	aacaggctaa	tgcccagaag	300
attgctgaat	tcctggcgct	tcacccgagg	gtcaagcaag	taaactacgc	tgggcttcct	360
gaccatcctg	ggcgagcttt	acactattcc	caggcaaagg	gagcgggctc	tgttctcagt	420
tttctcaccg	gctcactggc	cctctcaaag	cacgtcgtgg	agaccaccaa	gtacttcagc	480
gtaacagtca	gcttcgggag	cgtgaagtcc	ctcatcagcc	tgccgtgctt	catgtcccac	540
gcatcaatcc	ctgcctcggt	ccgcgaggag	cgtggcctaa	ccgacgacct	cgtccggata	600
tcggtcggca	tcgaggatgt	cgaggacctc	atcgccgata	tggaccgcgc	gctcagaact	660

ggcccgggtgt agacatcgcc gaccccttagg tcatgtcaag ctatcttttg atgattcatt	720
ggttgactgc ttgcgtgatg ataataatgg gaatgttgct tggataaaaa aaaaaaaaaa	780
aaaactcga	789

<210> 34  
 <211> 223  
 <212> PRT  
 <213> Zea mays

<400> 34  
 Ile Ala His Ser His Gly Ala Leu Val Leu Val Asp Asn Ser Ile Met  
 1 5 10 15  
 Ser Pro Val Leu Ser Arg Pro Ile Glu Leu Gly Ala Asp Ile Val Met  
 20 25 30  
 His Ser Ala Thr Lys Phe Ile Ala Gly His Ser Asp Leu Met Ala Gly  
 35 40 45  
 Ile Leu Ala Val Lys Gly Glu Ser Leu Ala Lys Glu Val Gly Phe Leu  
 50 55 60  
 Gln Asn Ala Glu Gly Ser Gly Leu Ala Pro Phe Asp Cys Trp Leu Cys  
 65 70 75 80  
 Leu Arg Gly Ile Lys Thr Met Ala Leu Arg Val Glu Lys Gln Gln Ala  
 85 90 95  
 Asn Ala Gln Lys Ile Ala Glu Phe Leu Ala Ser His Pro Arg Val Lys  
 100 105 110  
 Gln Val Asn Tyr Ala Gly Leu Pro Asp His Pro Gly Arg Ala Leu His  
 115 120 125  
 Tyr Ser Gln Ala Lys Gly Ala Gly Ser Val Leu Ser Phe Leu Thr Gly  
 130 135 140  
 Ser Leu Ala Leu Ser Lys His Val Val Glu Thr Thr Lys Tyr Phe Ser  
 145 150 155 160  
 Val Thr Val Ser Phe Gly Ser Val Lys Ser Leu Ile Ser Leu Pro Cys  
 165 170 175  
 Phe Met Ser His Ala Ser Ile Pro Ala Ser Val Arg Glu Glu Arg Gly  
 180 185 190  
 Leu Thr Asp Asp Leu Val Arg Ile Ser Val Gly Ile Glu Asp Val Glu  
 195 200 205  
 Asp Leu Ile Ala Asp Leu Asp Arg Ala Leu Arg Thr Gly Pro Val  
 210 215 220

<210> 35  
 <211> 547  
 <212> DNA  
 <213> Oryza sativa

<220>  
 <221> unsure  
 <222> (260)  
 <223> n = A, C, G or T

<220>  
<221> unsure  
<222> (306)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (376)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (383)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (404)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (432)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (446)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (455) (456)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (509)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (514)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (522  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (537)  
<223> n = A, C, G or T

<400> 35  
gccttatggc taagcttgag aaggcggatc aggcattctg cttcaccagt gggatggcag 60  
cactagctgc agtaacacac ctcttaagt ctggacaaga aatagttgct ggagaggaca 120  
tatatggtgg ctacagaccgt ctgctctcac aagttgcccc gagacatggg attgtagtaa 180  
aacgaattga tacaaccaa attagtgagg taacttctgc aattggggcc ttggactaaa 240

ctaagtatgg	ctttgaaaan	cccaccatcc	ccgtcctaca	aattactgga	tataaagaaa	300
atagcnagag	atagtcatta	caatggggct	ccttgtttta	agtagacaac	agcacatgtc	360
tccctgtgct	ctcccngtcc	tcntaaaact	ttggggccaaa	tatnggtttg	caccccaagc	420
aaccaattta	tnctgggcat	agcgtnccta	tggcnnggat	ccttgccggg	aaggggtgaa	480
agcacttggc	taaagagatg	cattcctcna	aaanctgaag	gntaagtttg	gacattngat	540
gccgggtt						547

<210> 36  
 <211> 75  
 <212> PRT  
 <213> Oryza sativa

<400> 36  
 Leu Met Ala Lys Leu Glu Lys Ala Asp Gln Ala Phe Cys Phe Thr Ser  
 1 5 10 15  
 Gly Met Ala Ala Leu Ala Ala Val Thr His Leu Leu Lys Ser Gly Gln  
 20 25 30  
 Glu Ile Val Ala Gly Glu Asp Ile Tyr Gly Gly Ser Asp Arg Leu Leu  
 35 40 45  
 Ser Gln Val Ala Pro Arg His Gly Ile Val Val Lys Arg Ile Asp Thr  
 50 55 60  
 Thr Lys Ile Ser Glu Val Thr Ser Ala Ile Gly  
 65 70 75

<210> 37  
 <211> 1733  
 <212> DNA  
 <213> Glycine max

<400> 37  
 caaagacggc attgaagttg aacaatccat cactaacaca agcgcagaca acaacataac 60  
 cctgctccaa acacatcaat ttcaataatg ttttcttctg caatttctca gaagcccttc 120  
 cttcagtcctc tcgtcattga tcgttacgct cagagcacaa ctgctgcaac caggtgggag 180  
 tgcttgggggt ttaacaagtc agaaaatttc agtaccaaga gagtgttgcg tgcagagggg 240  
 ttcaagttga attgcttggt tgaaaataga gagatggaag tggagtcatc atcatcatct 300  
 ttggtggatg atgctgccat gagcttaagt gaagaggatt taggggagcc tagtatttca 360  
 acaatgggtga tgaatttcga gagtaagttt gatccttttg gagcaattag taccctgctt 420  
 taccaaacgg ctacttttaa gcagccttct gcaatagaaa atgggtcccta tgactatacc 480  
 agaagtggaa atcctactcg tgatgcttta gaaagtttac tagcaaagct tgataaagca 540  
 gatagagccc tgtgcttcac cagtggaaatg gctgctttga gtgctgttgt tcgtcttggt 600  
 ggaactggtg aggaaattgt caccggagat gatgtatatg gtggctcaga taggttgctg 660  
 tctcaagtag ttccaaggac tggaattgtg gtgaaacggg taaatacatg tgatctagat 720  
 gaggttgctg ctgccattgg actcaggact aagcttgtgt ggcttgagag tccaaccaat 780  
 cctcggcttc aaatttctga tattcgaaaa atatcagaga tggctcattc acatgggtgct 840  
 cttgtgttag tggacaatag tataatgtca cctgtgttgt ctcagccatt ggaacttgga 900  
 gcagatattg tcatgcactc agctacaaaa ttatttgctg gacatagtga cattatggct 960  
 ggtgtgcttg ctgtgaaggg tgaaaagttg ggaaaggaaa tgtatttctt gcaaaatgca 1020  
 gagggttcag gcttagcacc atttgactgt tggcttttgt tgcgaggaat caagacaatg 1080  
 gccctgcgaa ttgaaaagca acaggataac gcacagaaga ttgcagagtt ccttgccctc 1140  
 catcctcgag tgaaggaagt gaattatgct ggcttgccctg gtcacccctg tcgtgattta 1200  
 cactattctc aggcaaaggg tgcaggatct gtgcttagct tcttgactgg ttcattggca 1260  
 ctttcaaagc atattgttga aactaccaa tacttcagta taaccgtcag ctttgggagt 1320  
 gtgaagtccc tcattagcat gccatgcttt atgtcacatg caagcatacc tgctgcagtt 1380  
 cgcgaggcca gaggtttaac tgaagatctt gtacgaatat ctgtgggaat tgaggatgtg 1440  
 aatgatctca ttgctgatct tggcaatgca cttagaactg gacctcttta atgtcttctc 1500  
 cccccccca ccaaaaaga aaaaaattca tccttaagaa gttggattag catgttgagg 1560  
 atttgggagc attgctatcc tgtctttgga ttcttgagag tggaaacttg aagtgttgct 1620

tatgtgcatg taataaaatc aatatttcct gtaattttgt tgtaacaatt gttatcctta	1680
ccttgcaata tcatgtcata caagttacta ttgaaaaaaa aaaaaaaaaa aaa	1733

<210> 38  
 <211> 467  
 <212> PRT  
 <213> Glycine max

<400> 38

Met	Phe	Ser	Ser	Ala	Ile	Ser	Gln	Lys	Pro	Phe	Leu	Gln	Ser	Leu	Val
1				5				10						15	
Ile	Asp	Arg	Tyr	Ala	Gln	Ser	Thr	Thr	Ala	Ala	Thr	Arg	Trp	Glu	Cys
			20					25					30		
Leu	Gly	Phe	Asn	Lys	Ser	Glu	Asn	Phe	Ser	Thr	Lys	Arg	Val	Leu	Arg
		35					40					45			
Ala	Glu	Gly	Phe	Lys	Leu	Asn	Cys	Leu	Val	Glu	Asn	Arg	Glu	Met	Glu
	50					55					60				
Val	Glu	Ser	Ser	Ser	Ser	Ser	Leu	Val	Asp	Asp	Ala	Ala	Met	Ser	Leu
65					70					75					80
Ser	Glu	Glu	Asp	Leu	Gly	Glu	Pro	Ser	Ile	Ser	Thr	Met	Val	Met	Asn
				85					90					95	
Phe	Glu	Ser	Lys	Phe	Asp	Pro	Phe	Gly	Ala	Ile	Ser	Thr	Pro	Leu	Tyr
			100					105					110		
Gln	Thr	Ala	Thr	Phe	Lys	Gln	Pro	Ser	Ala	Ile	Glu	Asn	Gly	Pro	Tyr
		115					120					125			
Asp	Tyr	Thr	Arg	Ser	Gly	Asn	Pro	Thr	Arg	Asp	Ala	Leu	Glu	Ser	Leu
	130					135					140				
Leu	Ala	Lys	Leu	Asp	Lys	Ala	Asp	Arg	Ala	Leu	Cys	Phe	Thr	Ser	Gly
145					150					155					160
Met	Ala	Ala	Leu	Ser	Ala	Val	Val	Arg	Leu	Val	Gly	Thr	Gly	Glu	Glu
				165					170					175	
Ile	Val	Thr	Gly	Asp	Asp	Val	Tyr	Gly	Gly	Ser	Asp	Arg	Leu	Leu	Ser
			180					185					190		
Gln	Val	Val	Pro	Arg	Thr	Gly	Ile	Val	Val	Lys	Arg	Val	Asn	Thr	Cys
		195					200					205			
Asp	Leu	Asp	Glu	Val	Ala	Ala	Ala	Ile	Gly	Leu	Arg	Thr	Lys	Leu	Val
	210					215					220				
Trp	Leu	Glu	Ser	Pro	Thr	Asn	Pro	Arg	Leu	Gln	Ile	Ser	Asp	Ile	Arg
225					230					235					240
Lys	Ile	Ser	Glu	Met	Ala	His	Ser	His	Gly	Ala	Leu	Val	Leu	Val	Asp
				245					250					255	
Asn	Ser	Ile	Met	Ser	Pro	Val	Leu	Ser	Gln	Pro	Leu	Glu	Leu	Gly	Ala
			260					265					270		
Asp	Ile	Val	Met	His	Ser	Ala	Thr	Lys	Phe	Ile	Ala	Gly	His	Ser	Asp

275					280					285						
Ile	Met	Ala	Gly	Val	Leu	Ala	Val	Lys	Gly	Glu	Lys	Leu	Gly	Lys	Glu	
290					295					300						
Met	Tyr	Phe	Leu	Gln	Asn	Ala	Glu	Gly	Ser	Gly	Leu	Ala	Pro	Phe	Asp	
305					310					315					320	
Cys	Trp	Leu	Cys	Leu	Arg	Gly	Ile	Lys	Thr	Met	Ala	Leu	Arg	Ile	Glu	
					325					330					335	
Lys	Gln	Gln	Asp	Asn	Ala	Gln	Lys	Ile	Ala	Glu	Phe	Leu	Ala	Ser	His	
					340					345					350	
Pro	Arg	Val	Lys	Glu	Val	Asn	Tyr	Ala	Gly	Leu	Pro	Gly	His	Pro	Gly	
					355					360					365	
Arg	Asp	Leu	His	Tyr	Ser	Gln	Ala	Lys	Gly	Ala	Gly	Ser	Val	Leu	Ser	
					370					375					380	
Phe	Leu	Thr	Gly	Ser	Leu	Ala	Leu	Ser	Lys	His	Ile	Val	Glu	Thr	Thr	
385					390					395					400	
Lys	Tyr	Phe	Ser	Ile	Thr	Val	Ser	Phe	Gly	Ser	Val	Lys	Ser	Leu	Ile	
					405					410					415	
Ser	Met	Pro	Cys	Phe	Met	Ser	His	Ala	Ser	Ile	Pro	Ala	Ala	Val	Arg	
					420					425					430	
Glu	Ala	Arg	Gly	Leu	Thr	Glu	Asp	Leu	Val	Arg	Ile	Ser	Val	Gly	Ile	
					435					440					445	
Glu	Asp	Val	Asn	Asp	Leu	Ile	Ala	Asp	Leu	Gly	Asn	Ala	Leu	Arg	Thr	
450					455					460						

Gly Pro Leu  
465

<210> 39  
 <211> 637  
 <212> DNA  
 <213> Triticum aestivum

<220>  
 <221> unsure  
 <222> (400)  
 <223> n = A, C, G or T

<220>  
 <221> unsure  
 <222> (417)  
 <223> n = A, C, G or T

<220>  
 <221> unsure  
 <222> (486)  
 <223> n = A, C, G or T

<220>  
 <221> unsure  
 <222> (492) (493)

<223> n = A, C, G or T

<220>

<221> unsure

<222> (505)

<223> n = A, C, G or T

<220>

<221> unsure

<222> (518)

<223> n = A, C, G or T

<220>

<221> unsure

<222> (524)

<223> n = A, C, G or T

<220>

<221> unsure

<222> (530)

<223> n = A, C, G or T

<220>

<221> unsure

<222> (532)

<223> n = A, C, G or T

<220>

<221> unsure

<222> (557)

<223> n = A, C, G or T

<220>

<221> unsure

<222> (563)

<223> n = A, C, G or T

<220>

<221> unsure

<222> (581)

<223> n = A, C, G or T

<220>

<221> unsure

<222> (591)

<223> n = A, C, G or T

<220>

<221> unsure

<222> (596)

<223> n = A, C, G or T

<220>

<221> unsure

<222> (617)

<223> n = A, C, G or T

<400> 39

agcgtggcca	cgatactgac	cagcttcgag	aactcgttcg	acaagtatgg	ggctctcagc	60
acgccgctgt	accagacggc	caccttcaag	cagccttcag	caaccgttaa	tggagcttat	120
gattatacta	gaagtggcaa	ccctactcgt	gatgttctcc	agagccttat	ggctaagctc	180

gagaaggcag	accaagcatt	ctgcttcact	agtgggatgg	catcactggg	ctgcagtaac	240
acacctcctt	caggctggac	aagaaatagt	tgctggagag	gacatatatg	gtgggtctgat	300
cgtctgctct	cacaagttgt	cccaagaaat	ggaattgtag	taaaacgggt	cgatacaact	360
aaaattaacg	acgtgactgc	tgcateggac	ccttgactan	actagtttgg	ttgaaancca	420
caatcctcgt	caacaattac	tgtataagaa	atctcaggga	tactcatcca	tggggactgg	480
tttggnggca	annttcattg	cccanggcta	cctggccnat	aaantggggn	antatgggag	540
catcagtaca	aattatnctg	gcnatgtcta	ggtggatctc	ntaaggggaa	nttgggnagga	600
ttcttcaaaa	cctagtnggt	tgacttatgt	ggttggtt			637

<210> 40  
 <211> 131  
 <212> PRT  
 <213> Triticum aestivum

<220>  
 <221> UNSURE  
 <222> (77)  
 <223> Xaa = ANY AMINO ACID

<220>  
 <221> UNSURE  
 <222> (99)  
 <223> Xaa = ANY AMINO ACID

<400> 40  
 Ser Val Ala Thr Ile Leu Thr Ser Phe Glu Asn Ser Phe Asp Lys Tyr  
 1 5 10 15  
 Gly Ala Leu Ser Thr Pro Leu Tyr Gln Thr Ala Thr Phe Lys Gln Pro  
 20 25 30  
 Ser Ala Thr Val Asn Gly Ala Tyr Asp Tyr Thr Arg Ser Gly Asn Pro  
 35 40 45  
 Thr Arg Asp Val Leu Gln Ser Leu Met Ala Lys Leu Glu Lys Ala Asp  
 50 55 60  
 Gln Ala Phe Cys Phe Thr Ser Gly Met Ala Ser Leu Xaa Ala Val Thr  
 65 70 75 80  
 His Leu Leu Gln Ala Gly Gln Glu Ile Val Ala Gly Glu Asp Ile Tyr  
 85 90 95  
 Gly Gly Xaa Asp Arg Leu Leu Ser Gln Val Val Pro Arg Asn Gly Ile  
 100 105 110  
 Val Val Lys Arg Val Asp Thr Thr Lys Ile Asn Asp Val Thr Ala Ala  
 115 120 125  
 Ser Asp Pro  
 130

<210> 41  
 <211> 464  
 <212> PRT  
 <213> Arabidopsis thaliana

<400> 41  
 Met Thr Ser Ser Leu Ser Leu His Ser Ser Phe Val Pro Ser Phe Ala  
 1 5 10 15



Asp	Leu	Ser	Asp	Arg	Gly	Leu	Ile	Ser	Lys	Asn	Ser	Pro	Thr	Ser	Val	20	25	30	
Ser	Ile	Ser	Lys	Val	Pro	Thr	Trp	Glu	Lys	Lys	Gln	Ile	Ser	Asn	Arg	35	40	45	
Asn	Ser	Phe	Lys	Leu	Asn	Cys	Val	Met	Glu	Lys	Ser	Val	Asp	Gly	Gln	50	55	60	
Thr	His	Ser	Thr	Val	Asn	Asn	Thr	Thr	Asp	Ser	Leu	Asn	Thr	Met	Asn	65	70	75	80
Ile	Lys	Glu	Glu	Ala	Ser	Val	Ser	Thr	Leu	Leu	Val	Asn	Leu	Asp	Asn	85	90	95	
Lys	Phe	Asp	Pro	Phe	Asp	Ala	Met	Ser	Thr	Pro	Leu	Tyr	Gln	Thr	Ala	100	105	110	
Thr	Phe	Lys	Gln	Pro	Ser	Ala	Ile	Glu	Asn	Gly	Pro	Tyr	Asp	Tyr	Thr	115	120	125	
Arg	Ser	Gly	Asn	Pro	Thr	Arg	Asp	Ala	Leu	Glu	Ser	Leu	Leu	Ala	Lys	130	135	140	
Leu	Asp	Lys	Ala	Asp	Arg	Ala	Phe	Cys	Phe	Thr	Ser	Gly	Met	Ala	Ala	145	150	155	160
Leu	Ser	Ala	Val	Thr	His	Leu	Ile	Lys	Asn	Gly	Glu	Glu	Ile	Val	Ala	165	170	175	
Gly	Asp	Asp	Val	Tyr	Gly	Gly	Ser	Asp	Arg	Leu	Leu	Ser	Gln	Val	Val	180	185	190	
Pro	Arg	Ser	Gly	Val	Val	Val	Lys	Arg	Val	Asn	Thr	Thr	Lys	Leu	Asp	195	200	205	
Glu	Val	Ala	Ala	Ala	Ile	Gly	Pro	Gln	Thr	Lys	Leu	Val	Trp	Leu	Glu	210	215	220	
Ser	Pro	Thr	Asn	Pro	Arg	Gln	Gln	Ile	Ser	Asp	Ile	Arg	Lys	Ile	Ser	225	230	235	240
Glu	Met	Ala	His	Ala	Gln	Gly	Ala	Leu	Val	Leu	Val	Asp	Asn	Ser	Ile	245	250	255	
Met	Ser	Pro	Val	Leu	Ser	Arg	Pro	Leu	Glu	Leu	Gly	Ala	Asp	Ile	Val	260	265	270	
Met	His	Ser	Ala	Thr	Lys	Phe	Ile	Ala	Gly	His	Ser	Asp	Val	Met	Ala	275	280	285	
Gly	Val	Leu	Ala	Val	Lys	Gly	Glu	Lys	Leu	Ala	Lys	Glu	Val	Tyr	Phe	290	295	300	
Leu	Gln	Asn	Ser	Glu	Gly	Ser	Gly	Leu	Ala	Pro	Phe	Asp	Cys	Trp	Leu	305	310	315	320
Cys	Leu	Arg	Gly	Ile	Lys	Thr	Met	Ala	Leu	Arg	Ile	Glu	Lys	Gln	Gln	325	330	335	
Glu	Asn	Ala	Arg	Lys	Ile	Ala	Met	Tyr	Leu	Ser	Ser	His	Pro	Arg	Val				

340	345	350
Lys Lys Val Tyr Tyr Ala Gly Leu Pro Asp His Pro Gly His His Leu		
355	360	365
His Phe Ser Gln Ala Lys Gly Ala Gly Ser Val Phe Ser Phe Ile Thr		
370	375	380
Gly Ser Val Ala Leu Ser Lys His Leu Val Glu Thr Thr Lys Tyr Phe		
385	390	400
Ser Ile Ala Val Ser Phe Gly Ser Val Lys Ser Leu Ile Ser Met Pro		
405	410	415
Cys Phe Met Ser His Ala Ser Ile Pro Ala Glu Val Arg Glu Ala Arg		
420	425	430
Gly Leu Thr Glu Asp Leu Val Arg Ile Ser Ala Gly Ile Glu Asp Val		
435	440	445
Asp Asp Leu Ile Ser Asp Leu Asp Ile Ala Phe Lys Thr Phe Pro Leu		
450	455	460

<210> 42  
 <211> 1113  
 <212> DNA  
 <213> Zea mays

<400> 42

gccgtccagg	acctcgcggc	ccctggggcg	ttcgacggcg	tcgacatcgc	gctattcagc	60
gccggcggga	gcgtcagccg	gaagtatggg	cccgcggccg	tcgccagcgg	cgccgtagtt	120
gtcgacaaca	gctccgcgtt	ccggatggag	cccagaggtgc	cgctcgtcat	ccccgaggtc	180
aacccccgagg	ccatggcgaa	cgteccgcctc	gggcaggggg	cgattgtggc	aaatccgaat	240
tgctcgacca	tcattctgcct	catggctgcc	acgccgctcc	atcgccacgc	taaggtgtta	300
aggatggttg	tcagcacata	ccaagcagca	agtgggtgcgg	gtgctgcggc	aatggaagaa	360
ctcaagctgc	agactcagga	ggtcttgga	gggaaggcgc	caacatgcaa	cattttcaaa	420
cagcagtatg	cttttaatat	attctcacac	aatgcaccag	ttcttgagaa	tgggtataac	480
gaggaggaaa	tgaaaatggg	gaaggagacc	aggaaaattt	ggaatgacaa	ggaggtgaaa	540
gtaactgcga	cttgcatacg	ggttcctgtg	atgcgcgcac	atgctgaaag	tgtcaatcta	600
cagtttgaaa	agccacttga	tgaggatact	gcaagagaaa	ttttgagagc	agctcctggg	660
gttaccatta	ttgatgaccg	agcttccaat	cgctttccta	cacctctgga	ggtatcagac	720
aaagatgacg	tagcagtggg	taggattcgt	caggacttgt	ccctggatgg	taaccgaggg	780
ttggacatat	ttgtgtgtgg	tgatcagata	cgtaaaggcg	ccgcactcaa	tgccgttcag	840
attgctgaaa	tgctgctgaa	gtgaatgtga	cctaaccctc	ttgtccctcc	ctccctgtcc	900
ctaattgctc	tgatcaaatg	ctggactgta	ctctgattag	tttgtcctca	attttgggtcg	960
cctgttctgt	attctgccgt	gctagtgcaa	taattgtgtt	atgggcttga	gttatctgct	1020
gtacgcataa	gtgggctcct	aaactgggaa	ataatgggcc	gtccttattc	agcattccgg	1080
tttataatctt	gttcaaaaaa	aaaaaaaaaa	ata			1113

<210> 43  
 <211> 287  
 <212> PRT  
 <213> Zea mays

<400> 43

Ala Val Gln Asp Leu Ala Ala Pro Gly Ala Phe Asp Gly Val Asp Ile
1 5 10 15
Ala Leu Phe Ser Ala Gly Gly Ser Val Ser Arg Lys Tyr Gly Pro Ala
20 25 30

Ala Val Ala Ser Gly Ala Val Val Val Asp Asn Ser Ser Ala Phe Arg  
35 40 45

Met Glu Pro Glu Val Pro Leu Val Ile Pro Glu Val Asn Pro Glu Ala  
50 55 60

Met Ala Asn Val Arg Leu Gly Gln Gly Ala Ile Val Ala Asn Pro Asn  
65 70 75 80

Cys Ser Thr Ile Ile Cys Leu Met Ala Ala Thr Pro Leu His Arg His  
85 90 95

Ala Lys Val Leu Arg Met Val Val Ser Thr Tyr Gln Ala Ala Ser Gly  
100 105 110

Ala Gly Ala Ala Ala Met Glu Glu Leu Lys Leu Gln Thr Gln Glu Val  
115 120 125

Leu Glu Gly Lys Ala Pro Thr Cys Asn Ile Phe Lys Gln Gln Tyr Ala  
130 135 140

Phe Asn Ile Phe Ser His Asn Ala Pro Val Leu Glu Asn Gly Tyr Asn  
145 150 155 160

Glu Glu Glu Met Lys Met Val Lys Glu Thr Arg Lys Ile Trp Asn Asp  
165 170 175

Lys Glu Val Lys Val Thr Ala Thr Cys Ile Arg Val Pro Val Met Arg  
180 185 190

Ala His Ala Glu Ser Val Asn Leu Gln Phe Glu Lys Pro Leu Asp Glu  
195 200 205

Asp Thr Ala Arg Glu Ile Leu Arg Ala Ala Pro Gly Val Thr Ile Ile  
210 215 220

Asp Asp Arg Ala Ser Asn Arg Phe Pro Thr Pro Leu Glu Val Ser Asp  
225 230 235 240

Lys Asp Asp Val Ala Val Gly Arg Ile Arg Gln Asp Leu Ser Leu Asp  
245 250 255

Gly Asn Arg Gly Leu Asp Ile Phe Val Cys Gly Asp Gln Ile Arg Lys  
260 265 270

Gly Ala Ala Leu Asn Ala Val Gln Ile Ala Glu Met Leu Leu Lys  
275 280 285

<210> 44  
<211> 1402  
<212> DNA  
<213> Oryza sativa

<400> 44  
gcccaactcc caaaacccta gaaccgcgcc gccacaatgc aggccgccgc cgccgccgctc 60  
caccgccgc acctcctcgg cgcctacccc ggcggtggcc gcgcgcgccg cccgtcgtcc 120  
accgtgcgga tggcgcttcg ggaggacggg ccgtcggtgg cgatcggtgg cgcgacgggc 180  
gccgtcggcc aggagtctct ccgcgtcatc tcctcccggg gcttccccta ccggagcctc 240  
cgctcctcgc ccagcgagcg ctccgcgggg aagcgcctcc cgttcgaggg ccaggagtac 300  
accgtccagg acctcgccgc gccgggcgcg ttcgacgggg tggacatcgc gctcttcagc 360  
gccggcggcg gggtcagccg cgcccacgct cccgcggccg tcgccagcgg cgccgtcgtc 420

```

gtggacaaca gctccgcctt ccggatggac cccgaggtgc cgctcgatcat ccccgaggtc 480
aatcccagg ccatggcgca cgtccggctg ggaaaggggg ctattgtggc caaccggaac 540
tggtccacca tcatctgcct catggctgcc acacctctgc accgccacgc caaggtggta 600
aggatgggtg tcagcactta ccaagcagca agtgggtgctg gggctgcggc catggaagaa 660
ctcaaacttc aaactcaaga ggtcttggcg gggaaagcac caacatgcaa cattttcagt 720
cagcagtatg cttttaatat attttcacat aatgcaccaa ttggtgaaaa tgggtacaat 780
gaggaggaga tgaagatggg gaaggagacc agaaaaatct ggaatgataa agatgtgaag 840
gtaactgcaa cctgcatacg agttcctgtg atgcgtgcac atgctgaaag tgtgaatcta 900
cagtttgaaa agccacttga tgaggatact gcaagggaaa tcttgagggc agctgaaggt 960
gttaccatta ttgatgaccg tgcttccaat cgcttcccca cacctcttga ggtatcggat 1020
aaagatgatg tagcagtggg tagaattcgt caggatttgt cgcaagatga taacaaaggg 1080
ctggacatat ttgtttgtgg agatcaaata cgtaaagggt ctgcactcaa tgctgtgcag 1140
attgctgaaa tgctactcaa gtgattttct tttctgtacc tttctctcct tgccctctct 1200
tgctctagtc attgtttgac ggatgtactc tgggttagtat gagatcaatt ttgatcatct 1260
tttgtaatct atattcctag tgaataaaat gtaaaacggg tttgctctat cttctgcaca 1320
agtgtagaag aaatctgaaa ttgggaaatt ggagtgtggc ccttgttcaa aaaaaaaaaa 1380
aaaaaaaaaa aaaaaaaaaa aa
1402

```

<210> 45

<211> 375

<212> PRT

<213> Oryza sativa

<400> 45

```

Met Gln Ala Ala Ala Ala Val His Arg Pro His Leu Leu Gly Ala
  1              5              10              15

```

```

Tyr Pro Gly Gly Gly Arg Ala Arg Arg Pro Ser Ser Thr Val Arg Met
          20              25              30

```

```

Ala Leu Arg Glu Asp Gly Pro Ser Val Ala Ile Val Gly Ala Thr Gly
          35              40              45

```

```

Ala Val Gly Gln Glu Phe Leu Arg Val Ile Ser Ser Arg Gly Phe Pro
          50              55              60

```

```

Tyr Arg Ser Leu Arg Leu Leu Ala Ser Glu Arg Ser Ala Gly Lys Arg
          65              70              75              80

```

```

Leu Pro Phe Glu Gly Gln Glu Tyr Thr Val Gln Asp Leu Ala Ala Pro
          85              90              95

```

```

Gly Ala Phe Asp Gly Val Asp Ile Ala Leu Phe Ser Ala Gly Gly Gly
          100              105              110

```

```

Val Ser Arg Ala His Ala Pro Ala Ala Val Ala Ser Gly Ala Val Val
          115              120              125

```

```

Val Asp Asn Ser Ser Ala Phe Arg Met Asp Pro Glu Val Pro Leu Val
          130              135              140

```

```

Ile Pro Glu Val Asn Pro Glu Ala Met Ala His Val Arg Leu Gly Lys
          145              150              155              160

```

```

Gly Ala Ile Val Ala Asn Pro Asn Cys Ser Thr Ile Ile Cys Leu Met
          165              170              175

```

```

Ala Ala Thr Pro Leu His Arg His Ala Lys Val Val Arg Met Val Val
          180              185              190

```

```

Ser Thr Tyr Gln Ala Ala Ser Gly Ala Gly Ala Ala Ala Met Glu Glu

```

195					200					205					
Leu	Lys	Leu	Gln	Thr	Gln	Glu	Val	Leu	Ala	Gly	Lys	Ala	Pro	Thr	Cys
210						215					220				
Asn	Ile	Phe	Ser	Gln	Gln	Tyr	Ala	Phe	Asn	Ile	Phe	Ser	His	Asn	Ala
225					230					235					240
Pro	Ile	Val	Glu	Asn	Gly	Tyr	Asn	Glu	Glu	Glu	Met	Lys	Met	Val	Lys
				245					250					255	
Glu	Thr	Arg	Lys	Ile	Trp	Asn	Asp	Lys	Asp	Val	Lys	Val	Thr	Ala	Thr
			260					265					270		
Cys	Ile	Arg	Val	Pro	Val	Met	Arg	Ala	His	Ala	Glu	Ser	Val	Asn	Leu
		275					280					285			
Gln	Phe	Glu	Lys	Pro	Leu	Asp	Glu	Asp	Thr	Ala	Arg	Glu	Ile	Leu	Arg
290						295					300				
Ala	Ala	Glu	Gly	Val	Thr	Ile	Ile	Asp	Asp	Arg	Ala	Ser	Asn	Arg	Phe
305					310					315					320
Pro	Thr	Pro	Leu	Glu	Val	Ser	Asp	Lys	Asp	Asp	Val	Ala	Val	Gly	Arg
				325					330					335	
Ile	Arg	Gln	Asp	Leu	Ser	Gln	Asp	Asp	Asn	Lys	Gly	Leu	Asp	Ile	Phe
			340					345					350		
Val	Cys	Gly	Asp	Gln	Ile	Arg	Lys	Gly	Ala	Ala	Leu	Asn	Ala	Val	Gln
		355					360					365			
Ile	Ala	Glu	Met	Leu	Leu	Lys									
370					375										

<210> 46  
 <211> 1391  
 <212> DNA  
 <213> Glycine max

<400> 46  
 gcacgagctt cactctctgt tttgcgccac aaccacctct tctcgggccc cctcccggcc 60  
 cgccccaagc ccacctcttc ctcctcctcc aggatccgaa tgtccctccg cgagaacggc 120  
 ccctccatcg ccgtcgtggg cgtcaccggc gccgtcggcc aggagtccct ctccgtcttc 180  
 tccgaccgcg acttccccta ccgtccatt catatgctgg cttccaagcg ctccgctggc 240  
 cgccgcatca ctttcgagga cagggactac gtcgtccagg agctcacgcc ggagagcttc 300  
 gacggtgtcg acatcgcgct cttcagcgcc ggcggctcca tcagcaagca cttcggcccc 360  
 atcgccgtca atcgtggaac ggtcgtggtc gacaacagct ccgcgtttcg gatgaacgag 420  
 aaggtgcctt tggttaattcc cgaagtgaac cccgaagcaa tgcaaaacat caaagccgga 480  
 acgggaaagg gcgcactcat tgctaaccct aattgctcca ccattatatg cttgatggct 540  
 gctacccttc ttcacgacg tgccaagggtg ttacgtatgg ttgtagtac ctatcaggct 600  
 gcgagtgggtg ctggtgctgc tgcaatggaa gagcttgagc tgcaaaactcg tgaggtgttg 660  
 gaaggaaaac caccacttg taaaatattt aaccgacagt atgcttttaa tctattctca 720  
 cataatgcgt ctgttctttc aaatggatat aatgaagaag aaatgaaaat ggtcaaggag 780  
 accaggaaaa tctggaatga caaggatgtt aaagtaactg ccacatgcat acgagttccc 840  
 atcatgcgag ctcatgctga gagtgtgaat cttcaatttg aaagaccctt tgatgaggac 900  
 actgcaagag atattctgaa aaatgctcca ggtgtagtgg ttattgatga tcgtgaatcc 960  
 aatcattttc ctactccact ggaagtgtca aacaaggatg atgttgctgt tggtaggatt 1020  
 cggcaggacc tgtctcagga tgggaatcaa gggttggaca tctttgtatg tggggatcaa 1080  
 attcgcaagg gagctgcact taacgcaatc cagattgctg agatgttgct atgagttctg 1140  
 gtttttcaag gatctggtac ttaaagatta tgcttctttt gaaacagttt tgtatgtgct 1200

```

agttgtatgt ggttattcat ttcttttgtg atgtttaact agtccaagta tcttttcaac 1260
gatgtggtag cacactagct ggaaacagtt tttttaaggt cttggtgcgt aatatctgca 1320
atccttttca ccggaataa caagcactgg ttatggcaaa aaaaaaaaaa aaaaaaaaaa 1380
aaaaaaaaaa a 1391

```

```

<210> 47
<211> 377
<212> PRT
<213> Glycine max

```

```

<400> 47
Ala Arg Ala Ser Leu Ser Val Leu Arg His Asn His Leu Phe Ser Gly
 1             5             10             15

Pro Leu Pro Ala Arg Pro Lys Pro Thr Ser Ser Ser Ser Ser Arg Ile
      20             25             30

Arg Met Ser Leu Arg Glu Asn Gly Pro Ser Ile Ala Val Val Gly Val
      35             40             45

Thr Gly Ala Val Gly Gln Glu Phe Leu Ser Val Leu Ser Asp Arg Asp
      50             55             60

Phe Pro Tyr Arg Ser Ile His Met Leu Ala Ser Lys Arg Ser Ala Gly
      65             70             75             80

Arg Arg Ile Thr Phe Glu Asp Arg Asp Tyr Val Val Gln Glu Leu Thr
      85             90             95

Pro Glu Ser Phe Asp Gly Val Asp Ile Ala Leu Phe Ser Ala Gly Gly
      100            105            110

Ser Ile Ser Lys His Phe Gly Pro Ile Ala Val Asn Arg Gly Thr Val
      115            120            125

Val Val Asp Asn Ser Ser Ala Phe Arg Met Asn Glu Lys Val Pro Leu
      130            135            140

Val Ile Pro Glu Val Asn Pro Glu Ala Met Gln Asn Ile Lys Ala Gly
      145            150            155            160

Thr Gly Lys Gly Ala Leu Ile Ala Asn Pro Asn Cys Ser Thr Ile Ile
      165            170            175

Cys Leu Met Ala Ala Thr Pro Leu His Arg Arg Ala Lys Val Leu Arg
      180            185            190

Met Val Val Ser Thr Tyr Gln Ala Ala Ser Gly Ala Gly Ala Ala Ala
      195            200            205

Met Glu Glu Leu Glu Leu Gln Thr Arg Glu Val Leu Glu Gly Lys Pro
      210            215            220

Pro Thr Cys Lys Ile Phe Asn Arg Gln Tyr Ala Phe Asn Leu Phe Ser
      225            230            235            240

His Asn Ala Ser Val Leu Ser Asn Gly Tyr Asn Glu Glu Glu Met Lys
      245            250            255

Met Val Lys Glu Thr Arg Lys Ile Trp Asn Asp Lys Asp Val Lys Val
      260            265            270

```

Thr Ala Thr Cys Ile Arg Val Pro Ile Met Arg Ala His Ala Glu Ser  
 275 280 285  
 Val Asn Leu Gln Phe Glu Arg Pro Leu Asp Glu Asp Thr Ala Arg Asp  
 290 295 300  
 Ile Leu Lys Asn Ala Pro Gly Val Val Val Ile Asp Asp Arg Glu Ser  
 305 310 315 320  
 Asn His Phe Pro Thr Pro Leu Glu Val Ser Asn Lys Asp Asp Val Ala  
 325 330 335  
 Val Gly Arg Ile Arg Gln Asp Leu Ser Gln Asp Gly Asn Gln Gly Leu  
 340 345 350  
 Asp Ile Phe Val Cys Gly Asp Gln Ile Arg Lys Gly Ala Ala Leu Asn  
 355 360 365  
 Ala Ile Gln Ile Ala Glu Met Leu Leu  
 370 375

<210> 48  
 <211> 1470  
 <212> DNA  
 <213> Glycine max

<400> 48  
 gcacgagggtc tgtttttaaaa tccaacactt aatctctctc ttgcgagcct aaaatcccaa 60  
 tggcttcact ctctgttttg cgccacaacc acctcttctc gggccccctc ccggcccgcg 120  
 ccaagcccac ctctctctcc tcctccagga tccgaatgtc cctccgcgag aacggccccct 180  
 ccatcgccgt cgtgggcgtc accggcgccg tcggccagga gttcctctcc gtctctctcg 240  
 accgcgactt cccctaccgc tccattcata tgctggcttc caagcgctcc gctggccgcc 300  
 gcatcacctt cgaggacagg gactacgtcg tccaggagct cacgccggag agcttcgacg 360  
 gtgtcgacat cgcgctcttc agcgccggcg gctccatcag caagcacttc ggccccatcg 420  
 ccgtcaatcg tggaacggtc gtggctcgaca acagctccgc gtttcggatg gacgagaagg 480  
 tgcttttggg aattcccga gtgaaccccg aagcaatgca aaacatcaaa gccggaacgg 540  
 gaaagggcgc actcattgct aaccctaatt gctccaccat tagatgcttg aaggctgcta 600  
 cccctcttca tcgacgtgcc aagggtgttac gtatgggttg tagtacctat caggctgcga 660  
 gtgggtgctgg tgctgctgca atggaagagc ttgagctgca aactcgtgag gtgttggaag 720  
 gaaaaccacc cacttgtaaa atattttaacc gacagtatgc ttttaatatc ttctcacata 780  
 atgcgtctgt tctttcaaat ggatataatg aagaagaaat gaaaatgggtc aaggagacca 840  
 ggaaaatctg gaatgacaag gatgttaaag taactgccac atgcatacga gttcccatca 900  
 tgcgagctca tgctgagagt gtgaatcttc aatttgaaag accccttgat gaggacactg 960  
 caagagatat tctgaaaaat gctccagggt tagtggttat tgatgatcgt gaatccaatc 1020  
 attttcctac tccactggaa gtgtcaaaca aggatgatgt tgctgttggt aggattcggc 1080  
 aggacctgtc tcaggatggg aatcaagggt tggacatctt tgtatgtggg gatcaaattc 1140  
 gcaagggagc tgcacttaac gcaatccaga ttgctgagat gttgctatga gttctgggtt 1200  
 ttcaaggatc tggacttaa agattatgct tcttttgaaa cagttttgta tgtgctagtt 1260  
 gtatgtggtt attcatttct tttgtgatgt ttaactagtc caagtatctt ttcaacgatg 1320  
 tggtagcaca ctagctggaa acagtttttt taaggctctg gtgcgtaata tctgcaatcc 1380  
 ttttcaccgg gaataacaag cactgggttt ggcaaaaaaa aaaaaaaaaa aaaaaaaaaa 1440  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1470

<210> 49  
 <211> 376  
 <212> PRT  
 <213> Glycine max

<400> 49  
 Met Ala Ser Leu Ser Val Leu Arg His Asn His Leu Phe Ser Gly Pro

1	5	10	15
Leu Pro Ala Arg	Pro Lys Pro Thr	Ser Ser Ser Ser	Ser Arg Ile Arg
20		25	30
Met Ser Leu Arg	Glu Asn Gly Pro	Ser Ile Ala Val	Val Gly Val Thr
35		40	45
Gly Ala Val Gly	Gln Glu Phe Leu	Ser Val Leu Ser	Asp Arg Asp Phe
50		55	60
Pro Tyr Arg Ser	Ile His Met Leu	Ala Ser Lys Arg	Ser Ala Gly Arg
65		70	75
Arg Ile Thr Phe	Glu Asp Arg Asp	Tyr Val Val Gln	Glu Leu Thr Pro
	85	90	95
Glu Ser Phe Asp	Gly Val Asp Ile	Ala Leu Phe Ser	Ala Gly Gly Ser
	100	105	110
Ile Ser Lys His	Phe Gly Pro Ile	Ala Val Asn Arg	Gly Thr Val Val
	115	120	125
Val Asp Asn Ser	Ser Ala Phe Arg	Met Asp Glu Lys	Val Pro Leu Val
	130	135	140
Ile Pro Glu Val	Asn Pro Glu Ala	Met Gln Asn Ile	Lys Ala Gly Thr
145		150	155
Gly Lys Gly Ala	Leu Ile Ala Asn	Pro Asn Cys Ser	Thr Ile Arg Cys
	165	170	175
Leu Lys Ala Ala	Thr Pro Leu His	Arg Arg Ala Lys	Val Leu Arg Met
	180	185	190
Val Val Ser Thr	Tyr Gln Ala Ala	Ser Gly Ala Gly	Ala Ala Ala Met
	195	200	205
Glu Glu Leu Glu	Leu Gln Thr Arg	Glu Val Leu Glu	Gly Lys Pro Pro
	210	215	220
Thr Cys Lys Ile	Phe Asn Arg Gln	Tyr Ala Phe Asn	Leu Phe Ser His
225		230	235
Asn Ala Ser Val	Leu Ser Asn Gly	Tyr Asn Glu Glu	Glu Met Lys Met
	245	250	255
Val Lys Glu Thr	Arg Lys Ile Trp	Asn Asp Lys Asp	Val Lys Val Thr
	260	265	270
Ala Thr Cys Ile	Arg Val Pro Ile	Met Arg Ala His	Ala Glu Ser Val
	275	280	285
Asn Leu Gln Phe	Glu Arg Pro Leu	Asp Glu Asp Thr	Ala Arg Asp Ile
	290	295	300
Leu Lys Asn Ala	Pro Gly Val Val	Val Ile Asp Asp	Arg Glu Ser Asn
305		310	315
His Phe Pro Thr	Pro Leu Glu Val	Ser Asn Lys Asp	Asp Val Ala Val
	325	330	335



Gly Arg Ile Arg Gln Asp Leu Ser Gln Asp Gly Asn Gln Gly Leu Asp  
 340 345 350

Ile Phe Val Cys Gly Asp Gln Ile Arg Lys Gly Ala Ala Leu Asn Ala  
 355 360 365

Ile Gln Ile Ala Glu Met Leu Leu  
 370 375

<210> 50  
 <211> 1609  
 <212> DNA  
 <213> Triticum aestivum

<400> 50  
 caccaccacc cacctaccca aatcccagcc gccctaaaac cctaggccgc caaaccgcgc 60  
 gccgccgccg ccgcaatgca ggccgccgca gccgtccacc ggccacacct cctcgcggcg 120  
 tccccgctcg ggggccgcgc cagccgccgg ccctccacgg tccgcatggc gctccgcgag 180  
 gacggggccct ccgtggccat cgtgggcgcc accggcgccg tggggcagga gttcctccgc 240  
 gtcatacccg ccgcgactt cccctaccgc agcctgcgcc tcctcgccag cgagcgctcc 300  
 gcgggcaagc gcatcgactt cgagggccgg gactacaccg tccaggacct cgcggcgcgc 360  
 ggggccttcg acggggtcga catcgcgctc ttcagcgccg gcgggagcat cagccgcgcc 420  
 cagcgcccg ccgccgtcgc cagcggcgcc gtcgtcgtgg ataacagctc cgcctaccgg 480  
 atggaccccc acgtgccgct cgtcatcccg gaggttaacc ccgaggccat ggccgacgtc 540  
 cggctcggga aaggggctat tgtggccaac cccaactgtt ccaccatcat ctgcctcatg 600  
 gctgtcacgc cgctgcatcg ccacgccaaag gtgaaaagga tgggtgtcag cacataccaa 660  
 gcagcaagtg gtgctggtgc tgcagccatg gaagaactca aacttcagac tcgagaggtc 720  
 ttggaaggaa agccaccaac ctgtaacatt ttcagtcaac agtatgcttt taatatattt 780  
 tcgcataatg cacctattgt tgaaaatggc tataatgagg aagagatgaa aatggtgaag 840  
 gagaccagaa aaatctggaa tgacaaggat gtaagagtaa ctgcaacttg tatacggggtt 900  
 cctacgatgc gcgcgcatgc cgaaagcgtg aatctacagt ttgaaaagcc acttgatgag 960  
 gacactgcca gagaaatctt gagggcagct cctggtgtta ccattagtga cgaccgtgct 1020  
 gccaacgcgt tccctacacc actggaggta tcggataaag atgacgtatc agttggtagg 1080  
 attcgccagg acttgtcaca agatgataac agagggttgg agttatttgt ctgtggagac 1140  
 cagatacgta aaggcgccgc gctgaacgct gtgcagattg ctgaaatgct actgaagtga 1200  
 ccgccttttt accattgtct catgtgccac gttgctctat ccattgatgg attgatgtac 1260  
 tctagtcact ttcaaccag ttttggtcgt cgtctttttt gtaatctgtc aacctagcag 1320  
 aagaagtgta agacgggctt tagtcatctg ttgcacacaa aagtgcagcc acaagtttag 1380  
 aaaaggaggg ttttcacttg ttcggatttt gccttagggt ggactttgtt gcaagtttgt 1440  
 cgtttgtttc ttgaaagctg gtctgctgta actttacccc caaagccctc gagataacga 1500  
 ggcgtcctgt ggggacctaa aaaaaaaaaa aaaaaaaaaa aaaaaacccc aaaaaaaaaa 1560  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1609

<210> 51  
 <211> 374  
 <212> PRT  
 <213> Triticum aestivum

<400> 51  
 Met Gln Ala Ala Ala Val His Arg Pro His Leu Leu Ala Ala Ser  
 1 5 10 15  
 Pro Leu Gly Gly Arg Ala Ser Arg Arg Pro Ser Thr Val Arg Met Ala  
 20 25 30  
 Leu Arg Glu Asp Gly Pro Ser Val Ala Ile Val Gly Ala Thr Gly Ala  
 35 40 45  
 Val Gly Gln Glu Phe Leu Arg Val Ile Thr Ala Arg Asp Phe Pro Tyr  
 50 55 60

Arg	Ser	Leu	Arg	Leu	Leu	Ala	Ser	Glu	Arg	Ser	Ala	Gly	Lys	Arg	Ile	65	70	75	80
Asp	Phe	Glu	Gly	Arg	Asp	Tyr	Thr	Val	Gln	Asp	Leu	Ala	Ala	Pro	Gly		85	90	95
Ala	Phe	Asp	Gly	Val	Asp	Ile	Ala	Leu	Phe	Ser	Ala	Gly	Gly	Ser	Ile	100	105	110	
Ser	Arg	Ala	His	Ala	Pro	Ala	Ala	Val	Ala	Ser	Gly	Ala	Val	Val	Val	115	120	125	
Asp	Asn	Ser	Ser	Ala	Tyr	Arg	Met	Asp	Pro	Asp	Val	Pro	Leu	Val	Ile	130	135	140	
Pro	Glu	Val	Asn	Pro	Glu	Ala	Met	Ala	Asp	Val	Arg	Leu	Gly	Lys	Gly	145	150	155	160
Ala	Ile	Val	Ala	Asn	Pro	Asn	Cys	Ser	Thr	Ile	Ile	Cys	Leu	Met	Ala		165	170	175
Val	Thr	Pro	Leu	His	Arg	His	Ala	Lys	Val	Lys	Arg	Met	Val	Val	Ser	180	185	190	
Thr	Tyr	Gln	Ala	Ala	Ser	Gly	Ala	Gly	Ala	Ala	Ala	Met	Glu	Glu	Leu	195	200	205	
Lys	Leu	Gln	Thr	Arg	Glu	Val	Leu	Glu	Gly	Lys	Pro	Pro	Thr	Cys	Asn	210	215	220	
Ile	Phe	Ser	Gln	Gln	Tyr	Ala	Phe	Asn	Ile	Phe	Ser	His	Asn	Ala	Pro	225	230	235	240
Ile	Val	Glu	Asn	Gly	Tyr	Asn	Glu	Glu	Glu	Met	Lys	Met	Val	Lys	Glu		245	250	255
Thr	Arg	Lys	Ile	Trp	Asn	Asp	Lys	Asp	Val	Arg	Val	Thr	Ala	Thr	Cys	260	265	270	
Ile	Arg	Val	Pro	Thr	Met	Arg	Ala	His	Ala	Glu	Ser	Val	Asn	Leu	Gln	275	280	285	
Phe	Glu	Lys	Pro	Leu	Asp	Glu	Asp	Thr	Ala	Arg	Glu	Ile	Leu	Arg	Ala	290	295	300	
Ala	Pro	Gly	Val	Thr	Ile	Ser	Asp	Asp	Arg	Ala	Ala	Asn	Arg	Phe	Pro	305	310	315	320
Thr	Pro	Leu	Glu	Val	Ser	Asp	Lys	Asp	Asp	Val	Ser	Val	Gly	Arg	Ile		325	330	335
Arg	Gln	Asp	Leu	Ser	Gln	Asp	Asp	Asn	Arg	Gly	Leu	Glu	Leu	Phe	Val	340	345	350	
Cys	Gly	Asp	Gln	Ile	Arg	Lys	Gly	Ala	Ala	Leu	Asn	Ala	Val	Gln	Ile	355	360	365	
Ala	Glu	Met	Leu	Leu	Lys											370			

<210> 52  
<211> 340  
<212> PRT  
<213> Aquifex aeolicus

<400> 52

Met	Gly	Tyr	Arg	Val	Ala	Ile	Val	Gly	Ala	Thr	Gly	Glu	Val	Gly	Arg	
1				5				10						15		
Thr	Phe	Leu	Lys	Val	Leu	Glu	Glu	Arg	Asn	Phe	Pro	Val	Asp	Glu	Leu	
			20					25					30			
Val	Leu	Tyr	Ala	Ser	Glu	Arg	Ser	Glu	Gly	Lys	Val	Leu	Thr	Phe	Lys	
			35				40					45				
Gly	Lys	Glu	Tyr	Thr	Val	Lys	Ala	Leu	Asn	Lys	Glu	Asn	Ser	Phe	Lys	
	50					55					60					
Gly	Ile	Asp	Ile	Ala	Leu	Phe	Ser	Ala	Gly	Gly	Ser	Thr	Ser	Lys	Glu	
65					70					75					80	
Trp	Ala	Pro	Lys	Phe	Ala	Lys	Asp	Gly	Val	Val	Val	Ile	Asp	Asn	Ser	
				85					90					95		
Ser	Ala	Trp	Arg	Met	Asp	Pro	Asp	Val	Pro	Leu	Val	Val	Pro	Glu	Val	
			100					105					110			
Asn	Pro	Glu	Asp	Val	Lys	Asp	Phe	Lys	Lys	Lys	Gly	Ile	Ile	Ala	Asn	
		115					120					125				
Pro	Asn	Cys	Ser	Thr	Ile	Gln	Met	Val	Val	Ala	Leu	Lys	Pro	Ile	Tyr	
	130					135					140					
Asp	Lys	Ala	Gly	Ile	Lys	Arg	Val	Val	Val	Ser	Thr	Tyr	Gln	Ala	Val	
145					150					155					160	
Ser	Gly	Ala	Gly	Ala	Lys	Ala	Ile	Glu	Asp	Leu	Lys	Asn	Gln	Thr	Lys	
				165					170					175		
Ala	Trp	Cys	Glu	Gly	Lys	Glu	Met	Pro	Lys	Ala	Gln	Lys	Phe	Pro	His	
			180					185					190			
Gln	Ile	Ala	Phe	Asn	Ala	Leu	Pro	His	Ile	Asp	Val	Phe	Phe	Glu	Asp	
		195				200						205				
Gly	Tyr	Thr	Lys	Glu	Glu	Asn	Lys	Met	Leu	Tyr	Glu	Thr	Arg	Lys	Ile	
	210					215					220					
Met	His	Asp	Glu	Asn	Ile	Lys	Val	Ser	Ala	Thr	Cys	Val	Arg	Ile	Pro	
225					230				235						240	
Val	Phe	Tyr	Gly	His	Ser	Glu	Ser	Ile	Ser	Met	Glu	Thr	Glu	Lys	Glu	
				245					250					255		
Ile	Ser	Pro	Glu	Glu	Ala	Arg	Glu	Val	Leu	Lys	Asn	Ala	Pro	Gly	Val	
			260					265					270			
Ile	Val	Ile	Asp	Asn	Pro	Gln	Asn	Asn	Glu	Tyr	Pro	Met	Pro	Ile	Met	
		275				280						285				
Ala	Glu	Gly	Arg	Asp	Glu	Val	Phe	Val	Gly	Arg	Ile	Arg	Lys	Asp	Arg	

290		295		300
Val Phe Glu Pro Gly Leu Ser Met Trp Val Val Ala Asp Asn Ile Arg				
305		310		315 320
Lys Gly Ala Ala Thr Asn Ala Val Gln Ile Ala Glu Leu Leu Val Lys				
	325		330	335
Glu Gly Leu Ile				
340				

<210> 53  
 <211> 1727  
 <212> DNA  
 <213> Glycine max

<400> 53

ttgcaacaca	cattgtcttg	toggcaaaat	cttccaccaa	caacacacag	ccatggcagg	60
ctcaaacatt	ctttctcact	ctccttcctt	tcccaaaacc	tacagccact	ccttaaacca	120
aaacgcgtta	tcccaaaagc	ttttttttct	gcccctcaaa	ttcaaagcca	ccacaaaacc	180
acgtgctctc	agagcgggtc	tctcgcagaa	cgctgtcaaa	acctcgggtg	aggacacaaa	240
gaacgctcat	tttcagcact	gtttcaccaa	atccgaagat	gggtatctgt	actgtgaggg	300
cctcaagggtg	catgacatca	tggaatctgt	tgagagaaga	cctttctatt	tgtacagcaa	360
gccccagata	actaggaatg	ttgaagccta	caaggatgca	ttggaagggt	tgaactccat	420
aattgggttat	gccattaagg	ccaataataa	cttgaagatt	ttggaacatt	tgaggcactt	480
gggttgtggt	gctgtgcttg	ttagtgggaa	tgagctgaag	ttggctcttc	gagctggctt	540
tgatcccaca	aggtgtatct	ttaatgggaa	tgggaaaatc	ttggaggatt	tggtcttggc	600
tgctcaggaa	ggtgtgtttg	tcaacattga	tagtgagttt	gacttggaag	acattgtaga	660
ggctgcaaaa	agggctggga	agaaggtcaa	tgtttttact	cggattaatc	ctgatgtgga	720
tccacagggtt	catecttatg	ttgccactgg	gaataagaac	tctaaatttg	gcattagaaa	780
tgagaagctg	cagtgtcttt	tagatgcagt	gaaggaacat	cctaattgag	tcaaacttgt	840
agggggccac	tgccatcttg	gttcaacaat	taccaagggt	gacattttca	gggatgcagc	900
caccattatg	atcaactaca	ttgaccaa	ccgagatcag	ggttttgaag	ttgattactt	960
aaatattggt	ggaggacttg	ggatagatta	ttatcattct	ggtgccatcc	ttcctacacc	1020
tagagatctc	attgacactg	tacgagatct	tgttatttca	cgtgggtctta	atctcatcat	1080
tgaaccagga	agatcactca	ttgcaa	gtgttgctta	gttaaccggg	tgacagggtg	1140
taaaactaat	ggatctaata	acttcattgt	aattgatgga	agtatggctg	aacttatccg	1200
ccctagtctt	tatgatgctt	accagcatat	agagctgggt	tcccctgccc	cgtcaa	1260
tgaaacagaa	acttttgatg	tggttggccc	tgtctgtgag	tctgcagatt	tcttaggaaa	1320
aggaagagaa	cttcctactc	cagccaaggg	tactgggttg	gttggtcatg	atgctgggtg	1380
ttattgcatg	agcatggcat	caacctacaa	tctaaagatg	cggcctcctg	agtattgggt	1440
tgaagatgat	ggatcagtga	gcaaaataag	acatggagag	acttttgaag	accacattcg	1500
gtttttttgag	gggctttgag	ctaataattt	atcttgtagg	aaagaaggct	ggagaattgt	1560
tatgtacttg	gagtttgaat	ctttcctcgt	caatgaatgc	atgactcttg	tagttctgtt	1620
tcttccggtt	taattgaatg	ttgactccca	tgacaggaac	agagaataaa	gttgatttca	1680
gttaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaa		1727

<210> 54  
 <211> 505  
 <212> PRT  
 <213> Glycine max

<400> 54

Cys Asn Thr His Cys Leu Val Gly Lys Ile Phe His Gln Gln His Thr														
1				5					10					15
Ala Met Ala Gly Ser Asn Ile Leu Ser His Ser Pro Ser Leu Pro Lys														
			20					25					30	
Thr Tyr Ser His Ser Leu Asn Gln Asn Ala Leu Ser Gln Lys Leu Phe														
			35				40					45		

Phe 50	Leu	Pro	Leu	Lys	Phe	Lys 55	Ala	Thr	Thr	Lys	Pro 60	Arg	Ala	Leu	Arg
Ala 65	Val	Leu	Ser	Gln	Asn 70	Ala	Val	Lys	Thr	Ser 75	Val	Glu	Asp	Thr	Lys 80
Asn	Ala	His	Phe	Gln 85	His	Cys	Phe	Thr	Lys 90	Ser	Glu	Asp	Gly	Tyr 95	Leu
Tyr	Cys	Glu	Gly 100	Leu	Lys	Val	His	Asp 105	Ile	Met	Glu	Ser	Val 110	Glu	Arg
Arg	Pro	Phe 115	Tyr	Leu	Tyr	Ser	Lys 120	Pro	Gln	Ile	Thr	Arg 125	Asn	Val	Glu
Ala 130	Tyr	Lys	Asp	Ala	Leu	Glu 135	Gly	Leu	Asn	Ser	Ile 140	Ile	Gly	Tyr	Ala
Ile 145	Lys	Ala	Asn	Asn 150	Asn	Leu	Lys	Ile	Leu	Glu 155	His	Leu	Arg	His	Leu 160
Gly	Cys	Gly	Ala	Val 165	Leu	Val	Ser	Gly	Asn 170	Glu	Leu	Lys	Leu	Ala 175	Leu
Arg	Ala	Gly	Phe 180	Asp	Pro	Thr	Arg	Cys 185	Ile	Phe	Asn	Gly	Asn 190	Gly	Lys
Ile	Leu	Glu 195	Asp	Leu	Val	Leu	Ala 200	Ala	Gln	Glu	Gly 205	Val	Phe	Val	Asn
Ile 210	Asp	Ser	Glu	Phe	Asp	Leu 215	Glu	Asn	Ile	Val	Glu 220	Ala	Ala	Lys	Arg
Ala 225	Gly	Lys	Lys	Val	Asn 230	Val	Leu	Leu	Arg	Ile 235	Asn	Pro	Asp	Val	Asp 240
Pro	Gln	Val	His	Pro 245	Tyr	Val	Ala	Thr	Gly 250	Asn	Lys	Asn	Ser	Lys 255	Phe
Gly	Ile	Arg	Asn 260	Glu	Lys	Leu	Gln	Cys 265	Phe	Leu	Asp	Ala	Val 270	Lys	Glu
His	Pro	Asn 275	Glu	Leu	Lys	Leu	Val 280	Gly	Ala	His	Cys	His 285	Leu	Gly	Ser
Thr 290	Ile	Thr	Lys	Val	Asp	Ile 295	Phe	Arg	Asp	Ala	Ala 300	Thr	Ile	Met	Ile
Asn 305	Tyr	Ile	Asp	Gln 310	Ile	Arg	Asp	Gln	Gly	Phe 315	Glu	Val	Asp	Tyr	Leu 320
Asn	Ile	Gly	Gly	Gly 325	Leu	Gly	Ile	Asp	Tyr 330	Tyr	His	Ser	Gly	Ala 335	Ile
Leu	Pro	Thr	Pro 340	Arg	Asp	Leu	Ile	Asp 345	Thr	Val	Arg	Asp	Leu 350	Val	Ile
Ser	Arg	Gly 355	Leu	Asn	Leu	Ile	Ile 360	Glu	Pro	Gly	Arg	Ser 365	Leu	Ile	Ala

Asn Thr Cys Cys Leu Val Asn Arg Val Thr Gly Val Lys Thr Asn Gly  
 370 375 380  
 Ser Lys Asn Phe Ile Val Ile Asp Gly Ser Met Ala Glu Leu Ile Arg  
 385 390 395 400  
 Pro Ser Leu Tyr Asp Ala Tyr Gln His Ile Glu Leu Val Ser Pro Ala  
 405 410 415  
 Pro Ser Asn Ala Glu Thr Glu Thr Phe Asp Val Val Gly Pro Val Cys  
 420 425 430  
 Glu Ser Ala Asp Phe Leu Gly Lys Gly Arg Glu Leu Pro Thr Pro Ala  
 435 440 445  
 Lys Gly Thr Gly Leu Val Val His Asp Ala Gly Ala Tyr Cys Met Ser  
 450 455 460  
 Met Ala Ser Thr Tyr Asn Leu Lys Met Arg Pro Pro Glu Tyr Trp Val  
 465 470 475 480  
 Glu Asp Asp Gly Ser Val Ser Lys Ile Arg His Gly Glu Thr Phe Glu  
 485 490 495  
 Asp His Ile Arg Phe Phe Glu Gly Leu  
 500 505

<210> 55  
 <211> 858  
 <212> DNA  
 <213> Triticum aestivum

<400> 55  
 ttgagttgg agtacctgaa tattggaggt ggtttgggga tagactacca ccacactggt 60  
 gcagtcttgc ctacacctat ggatcttatc aacactgtcc gggaattggt cctctcacgg 120  
 gatcttactc tcattattga acctggaaga tccctgatcg ccaatacttg ctgcttcgtc 180  
 aataaggtca ctggtgtaaa atcgaatggc acgaagaatt tcattgtagt tgatggcagc 240  
 atggccgagc tcatcaggcc tagtctatat ggagcatatc agcatataga actagtttct 300  
 ccctctccag gtgcagaagt agcaaccttc gatattggtg ggccagtctg cgaatctgca 360  
 gatttccttg gcaaagacag ggagcttcca acacctgaca agggagctgg tttggttgtc 420  
 cacgacgcag gagcctactg catgagcatg gcttcgacct acaacctgaa gatgaggcca 480  
 gccgagtatt gggtagagga cgatgggtcc attgttaaga tcaggcacgg tgaaacattt 540  
 gacgactaca tgaagttctt tgatggtctt cctgcctagg ccctttttatc ttgttttggg 600  
 caagcgtagc ccttttcatt tgatgagcgc atctcgtgga agattcgtgt gggaaaacta 660  
 ttcacttggt tgttatgtgg gtcaccccca tcaagcatgg gggtttttat ttgttagaat 720  
 agagtccaac aagtttagtg attgtagaga ttgaatggac ttactgcatt gttatcaatt 780  
 cttgtttata ctatataaag ggtccgactc ctcccaataa agttaaagaa tattgttggt 840  
 tacttttatc taaaaaaaa 858

<210> 56  
 <211> 192  
 <212> PRT  
 <213> Triticum aestivum

<400> 56  
 Phe Glu Leu Glu Tyr Leu Asn Ile Gly Gly Gly Leu Gly Ile Asp Tyr  
 1 5 10 15  
 His His Thr Gly Ala Val Leu Pro Thr Pro Met Asp Leu Ile Asn Thr  
 20 25 30

Val Arg Glu Leu Val Leu Ser Arg Asp Leu Thr Leu Ile Ile Glu Pro  
 35 40 45  
 Gly Arg Ser Leu Ile Ala Asn Thr Cys Cys Phe Val Asn Lys Val Thr  
 50 55 60  
 Gly Val Lys Ser Asn Gly Thr Lys Asn Phe Ile Val Val Asp Gly Ser  
 65 70 75 80  
 Met Ala Glu Leu Ile Arg Pro Ser Leu Tyr Gly Ala Tyr Gln His Ile  
 85 90 95  
 Glu Leu Val Ser Pro Ser Pro Gly Ala Glu Val Ala Thr Phe Asp Ile  
 100 105 110  
 Val Gly Pro Val Cys Glu Ser Ala Asp Phe Leu Gly Lys Asp Arg Glu  
 115 120 125  
 Leu Pro Thr Pro Asp Lys Gly Ala Gly Leu Val Val His Asp Ala Gly  
 130 135 140  
 Ala Tyr Cys Met Ser Met Ala Ser Thr Tyr Asn Leu Lys Met Arg Pro  
 145 150 155 160  
 Ala Glu Tyr Trp Val Glu Asp Asp Gly Ser Ile Val Lys Ile Arg His  
 165 170 175  
 Gly Glu Thr Phe Asp Asp Tyr Met Lys Phe Phe Asp Gly Leu Pro Ala  
 180 185 190

<210> 57  
 <211> 526  
 <212> PRT  
 <213> Arabidopsis thaliana

<400> 57  
 Met Gly Gln Thr Asn Ser Glu Thr Gln Gln Ala Arg Leu Tyr Thr Gln  
 1 5 10 15  
 Asn Ser Gln Lys Gln Leu Leu Arg Ser Phe Leu Leu Leu His Leu Ile  
 20 25 30  
 Phe Gly Tyr Gln Ser His Lys Thr Leu Arg Met Ala Ala Ala Thr Gln  
 35 40 45  
 Phe Leu Ser Gln Pro Ser Ser Leu Asn Pro His Gln Leu Lys Asn Gln  
 50 55 60  
 Thr Ser Gln Arg Ser Arg Ser Ile Pro Val Leu Ser Leu Lys Ser Thr  
 65 70 75 80  
 Leu Lys Pro Leu Lys Arg Leu Ser Val Lys Ala Ala Val Val Ser Gln  
 85 90 95  
 Asn Ser Ser Lys Thr Val Thr Lys Phe Asp His Cys Phe Lys Lys Ser  
 100 105 110  
 Ser Asp Gly Phe Leu Tyr Cys Glu Gly Thr Lys Val Glu Asp Ile Met  
 115 120 125  
 Glu Ser Val Glu Arg Arg Pro Phe Tyr Leu Tyr Ser Lys Pro Gln Ile

130	135	140
Thr Arg Asn Leu Glu Ala Tyr Lys Glu Ala Leu Glu Gly Val Ser Ser 145 150 155 160		
Val Ile Gly Tyr Ala Ile Lys Ala Asn Asn Asn Leu Lys Ile Leu Glu 165 170 175		
His Leu Arg Ser Leu Gly Cys Gly Ala Val Leu Val Ser Gly Asn Glu 180 185 190		
Leu Arg Leu Ala Leu Arg Ala Gly Phe Asp Pro Thr Lys Cys Ile Phe 195 200 205		
Asn Gly Asn Gly Lys Ser Leu Glu Asp Leu Val Leu Ala Ala Gln Glu 210 215 220		
Gly Val Phe Val Asn Val Asp Ser Glu Phe Asp Leu Asn Asn Ile Val 225 230 235 240		
Glu Ala Ser Arg Ile Ser Gly Lys Gln Val Asn Val Leu Leu Arg Ile 245 250 255		
Asn Pro Asp Val Asp Pro Gln Val His Pro Tyr Val Ala Thr Gly Asn 260 265 270		
Lys Asn Ser Lys Phe Gly Ile Arg Asn Glu Lys Leu Gln Trp Phe Leu 275 280 285		
Asp Gln Val Lys Ala His Pro Lys Glu Leu Lys Leu Val Gly Ala His 290 295 300		
Cys His Leu Gly Ser Thr Ile Thr Lys Val Asp Ile Phe Arg Asp Ala 305 310 315 320		
Ala Val Leu Met Ile Glu Tyr Ile Asp Glu Ile Arg Arg Gln Gly Phe 325 330 335		
Glu Val Ser Tyr Leu Asn Ile Gly Gly Gly Leu Gly Ile Asp Tyr Tyr 340 345 350		
His Ala Gly Ala Val Leu Pro Thr Pro Met Asp Leu Ile Asn Thr Val 355 360 365		
Arg Glu Leu Val Leu Ser Arg Asp Leu Asn Leu Ile Ile Glu Pro Gly 370 375 380		
Arg Ser Leu Ile Ala Asn Thr Cys Cys Phe Val Asn His Val Thr Gly 385 390 395 400		
Val Lys Thr Asn Gly Thr Lys Asn Phe Ile Val Ile Asp Gly Ser Met 405 410 415		
Ala Glu Leu Ile Arg Pro Ser Leu Tyr Asp Ala Tyr Gln His Ile Glu 420 425 430		
Leu Val Ser Pro Pro Pro Ala Glu Ala Glu Val Thr Lys Phe Asp Val 435 440 445		
Val Gly Pro Val Cys Glu Ser Ala Asp Phe Leu Gly Lys Asp Arg Glu 450 455 460		



Leu Pro Thr Pro Pro Gln Gly Ala Gly Leu Val Val His Asp Ala Gly  
 465 470 475 480  
 Ala Tyr Cys Met Ser Met Ala Ser Thr Tyr Asn Leu Lys Met Arg Pro  
 485 490 495  
 Pro Glu Tyr Trp Val Glu Glu Asp Gly Ser Ile Thr Lys Ile Arg His  
 500 505 510  
 Ala Glu Thr Phe Asp Asp His Leu Arg Phe Phe Glu Gly Leu  
 515 520 525

<210> 58  
 <211> 1143  
 <212> DNA  
 <213> Oryza sativa

<400> 58  
 gcacgaggtc gccgccatcg ctgcccttcg cgccctcgat gtcaagtccc acgccgtctc 60  
 catccacctc accaagggcc tccccctcgg ctccggcctc ggctcctccg ccgcctccgc 120  
 cgccgcccgt gccaaaggcc ttgacgccct ctccggctcc ctctacacc aagatgacct 180  
 cgtcctcgcg ggcctcgagt ccgagaaagc cgtcagtggc ttccacgccg acaacatcgc 240  
 cccggccatc ctccggcggt tcgtcctcgt ccgcagctac gacccttcc acctcatccc 300  
 gctctcctcc ccacctgccc tccgcctcca ctctgtctc gtcacgcccg acttcgaggc 360  
 gccaccagc aagatgcgtg ccgcgctgcc caaacagggt gccgtccacc agcacgtccg 420  
 caactccagc caagcggccg cgcttgctgc cgctgtgctg caaggggacg ccaccctcat 480  
 cggctccgca atgtcctccg acggcatcgt ggagccaacc agggcgccgc tgattcctgg 540  
 catggctgcg gtcaaggccg cggcgttgga agctggggca ttgggctgca ccatcagtgg 600  
 agcagggcca actgctgtgg ctgtcattga cggggaggag aagggcgagg aggttgccg 660  
 gaggatggtg gaggcattcg ccaatgccgg caatctcaaa gcaacagcta ctgttgctca 720  
 gctcgataga gttggtgcca gggttatctc tacctccact ttggagtagg aagatctggg 780  
 aggactgctc cggtaggtca aatttggaat ggctcacatg gacactagtg ggaggagaag 840  
 aaggggggat tgggtgtgtt tgtaattcct gggctgacca gaacgattgt cagtcagttg 900  
 ggttgatgaat tgtgtgatgt agtagcaaac tgattcgtgc cggcaattga attgcaataa 960  
 gctagtgtt gcagcatcac ctggcgaggc gtagctagga gatgcagaaa cagcattttg 1020  
 acatgtgtgg gtgttgacat gcaacgaata aaatgaatga agctgaattg gggtttaaaa 1080  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaata 1140  
 aaa 1143

<210> 59  
 <211> 255  
 <212> PRT  
 <213> Oryza sativa

<400> 59  
 His Glu Val Ala Ala Ile Ala Ala Leu Arg Ala Leu Asp Val Lys Ser  
 1 5 10 15  
 His Ala Val Ser Ile His Leu Thr Lys Gly Leu Pro Leu Gly Ser Gly  
 20 25 30  
 Leu Gly Ser Ser Ala Ala Ser Ala Ala Ala Ala Lys Ala Val Asp  
 35 40 45  
 Ala Leu Phe Gly Ser Leu Leu His Gln Asp Asp Leu Val Leu Ala Gly  
 50 55 60  
 Leu Glu Ser Glu Lys Ala Val Ser Gly Phe His Ala Asp Asn Ile Ala  
 65 70 75 80

Pro Ala Ile Leu Gly Gly Phe Val Leu Val Arg Ser Tyr Asp Pro Phe  
                     85                    90                    95  
 His Leu Ile Pro Leu Ser Ser Pro Pro Ala Leu Arg Leu His Phe Val  
                     100                    105                    110  
 Leu Val Thr Pro Asp Phe Glu Ala Pro Thr Ser Lys Met Arg Ala Ala  
                     115                    120                    125  
 Leu Pro Lys Gln Val Ala Val His Gln His Val Arg Asn Ser Ser Gln  
                     130                    135                    140  
 Ala Ala Ala Leu Val Ala Ala Val Leu Gln Gly Asp Ala Thr Leu Ile  
 145                    150                    155                    160  
 Gly Ser Ala Met Ser Ser Asp Gly Ile Val Glu Pro Thr Arg Ala Pro  
                     165                    170                    175  
 Leu Ile Pro Gly Met Ala Ala Val Lys Ala Ala Ala Leu Glu Ala Gly  
                     180                    185                    190  
 Ala Leu Gly Cys Thr Ile Ser Gly Ala Gly Pro Thr Ala Val Ala Val  
                     195                    200                    205  
 Ile Asp Gly Glu Glu Lys Gly Glu Glu Val Gly Arg Arg Met Val Glu  
                     210                    215                    220  
 Ala Phe Ala Asn Ala Gly Asn Leu Lys Ala Thr Ala Thr Val Ala Gln  
 225                    230                    235                    240  
 Leu Asp Arg Val Gly Ala Arg Val Ile Ser Thr Ser Thr Leu Glu  
                     245                    250                    255

<210> 60  
 <211> 370  
 <212> PRT  
 <213> Arabidopsis thaliana

<400> 60  
 Met Ala Ser Leu Cys Phe Gln Ser Pro Ser Lys Pro Ile Ser Tyr Phe  
   1                    5                    10                    15  
 Gln Pro Lys Ser Asn Pro Ser Pro Pro Leu Phe Ala Lys Val Ser Val  
                     20                    25                    30  
 Phe Arg Cys Arg Ala Ser Val Gln Thr Leu Val Ala Val Glu Pro Glu  
                     35                    40                    45  
 Pro Val Phe Val Ser Val Lys Thr Phe Ala Pro Ala Thr Val Ala Asn  
                     50                    55                    60  
 Leu Gly Pro Gly Phe Asp Phe Leu Gly Cys Ala Val Asp Gly Leu Gly  
   65                    70                    75                    80  
 Asp His Val Thr Leu Arg Val Asp Pro Ser Val Arg Ala Gly Glu Val  
                     85                    90                    95  
 Ser Ile Ser Glu Ile Thr Gly Thr Thr Thr Lys Leu Ser Thr Asn Pro  
                     100                    105                    110  
 Leu Arg Asn Cys Ala Gly Ile Ala Ala Ile Ala Thr Met Lys Met Leu

115					120					125						
Gly	Ile	Arg	Ser	Val	Gly	Leu	Ser	Leu	Asp	Leu	His	Lys	Gly	Leu	Pro	
130					135					140						
Leu	Gly	Ser	Gly	Leu	Gly	Ser	Ser	Ala	Ala	Ser	Ala	Ala	Ala	Ala	Ala	
145					150					155					160	
Val	Ala	Val	Asn	Glu	Ile	Phe	Gly	Arg	Lys	Leu	Gly	Ser	Asp	Gln	Leu	
165					170					175						
Val	Leu	Ala	Gly	Leu	Glu	Ser	Glu	Ala	Lys	Val	Ser	Gly	Tyr	His	Ala	
180					185					190						
Asp	Asn	Ile	Ala	Pro	Ala	Ile	Met	Gly	Gly	Phe	Val	Leu	Ile	Arg	Asn	
195					200					205						
Tyr	Glu	Pro	Leu	Asp	Leu	Lys	Pro	Leu	Lys	Phe	Pro	Ser	Asp	Lys	Asp	
210					215					220						
Leu	Phe	Phe	Val	Leu	Val	Ser	Pro	Glu	Phe	Glu	Ala	Pro	Thr	Lys	Lys	
225					230					235					240	
Met	Arg	Ala	Ala	Leu	Pro	Thr	Glu	Ile	Pro	Met	Val	His	His	Val	Trp	
245					250					255						
Asn	Ser	Ser	Gln	Ala	Ala	Ala	Ala	Leu	Val	Ala	Ala	Val	Leu	Glu	Gly	
260					265					270						
Ala	Val	Met	Leu	Gly	Lys	Ala	Leu	Ser	Ser	Asp	Lys	Ile	Val	Glu	Pro	
275					280					285						
Thr	Arg	Ala	Pro	Leu	Ile	Pro	Gly	Met	Glu	Ala	Val	Lys	Lys	Ala	Ala	
290					295					300						
Leu	Glu	Ala	Gly	Ala	Phe	Gly	Cys	Thr	Ile	Ser	Gly	Ala	Gly	Pro	Thr	
305					310					315					320	
Ala	Val	Ala	Val	Ile	Asp	Ser	Glu	Glu	Lys	Gly	Gln	Val	Ile	Gly	Glu	
325					330					335						
Lys	Met	Val	Glu	Ala	Phe	Trp	Lys	Val	Gly	His	Leu	Lys	Ser	Val	Ala	
340					345					350						
Ser	Val	Lys	Lys	Leu	Asp	Lys	Val	Gly	Ala	Arg	Leu	Val	Asn	Ser	Val	
355					360					365						
Ser	Arg															
370																

<210> 61  
 <211> 1508  
 <212> DNA  
 <213> Zea mays

<400> 61  
 aaggatggcg tcgtggtcgt cgccctcagc cgccgccaac gccgcctcgg gcgcccgcatt 60  
 cggccccttc ccgagcggag ggcagcggct cgcgccgtgt ccgtcgctcg tcgcgcgaac 120  
 tcccgcctcg acgctcgtcc tcaggctcca cccggacggc cgtggccatg gcctcctcgc 180  
 gcacaccggc cctctccct cctcgcggtg ccgcgccgtc gccgcgcagg tcgggggcct 240  
 caacatcgcc aacgacgtca cccagctcat cggcaacaca ccaatggtgt atctcaacaa 300

```

cgctcgtcaag ggctctgtcg ccaatgtcgc tgctaagctc gagattatgg agccctgctg 360
tagcgtcaag gacaggatag ggtacagtat gataaatgat gctgaacaga agggcttgat 420
tactcctgga aagagtgttt tggtggaagc aacaagtgga aacacaggca ttggtcttgc 480
tttcattgct gcttccaaag gatataagct gatactaaca atgccttcat caatgagcat 540
ggagagaaga gtcctcctta gagcttttgg tgccgaactt gtccttactg atgctgcaaa 600
agggatgaaa ggggccttag ataaggctac agagatttta aacaagacac caaattctta 660
catgcttcaa cagttcgata accctgccaa ccctcaggta cattatgaga ctactggtcc 720
agagatctgg gaggattcaa aggggaaggt ggatatattc attggtggaa ttggaacagg 780
ggggacaata tctggtgccg gccgttttct caaggagaaa aatcctggaa ttaaggttat 840
tggtattgag ccttctgaaa gtaacatact ctccggtgga aaacctggtc cacataagat 900
ccagggaatc ggcgcaggat ttgttccaag gaacttgat agcgatattc ttgatgaagt 960
aattgagata tcaagtgatg aagctgttga gacagcaaaa cagttggctg ttcaggaagg 1020
attactggtt ggaatctcct ctggagcagc cgccgctgct gccataaagg ttgccaaaag 1080
accagagaat gctggaaagc tgatagtggg tgtgtttccg agcttcggcg agagggtacct 1140
ttcatctgtc ctctatcagt ccataagaga agaattgtgag aacatgcaac ctgagccatg 1200
agggagccgt cactttaagc gggcatagta aatgtttctg aaataagacg cgtagccagc 1260
atcagtttgc tccacttgga atcatttggc catgctcact ctatcctttc gctagcctct 1320
atgaccggac ctaaactggg gtgtgagaaa catccacgac tgtcctccca actgctttcc 1380
taaagccaaa cgataacact ctcaataatt gtctatacga ttgaagctga tttgattggg 1440
aattgtaaac agcttgtctt tggatctttg aagtcaaaca aagtcagttg gttgaatcaa 1500
aaaaaaaaa 1508

```

<210> 62  
 <211> 398  
 <212> PRT  
 <213> Zea mays

```

<400> 62
Met Ala Ser Trp Ser Ser Pro Ser Ala Ala Ala Asn Ala Ala Ser Gly
  1              5              10              15

Ala Arg Phe Gly Pro Phe Pro Ser Gly Gly Gln Arg Leu Ala Pro Cys
      20              25              30

Pro Ser Leu Val Arg Gly Thr Pro Ala Pro Thr Leu Val Leu Arg Leu
      35              40              45

His Pro Asp Gly Arg Gly His Gly Leu Leu Ala His Thr Gly Pro Ser
      50              55              60

Pro Ser Ser Arg Cys Arg Ala Val Ala Ala Glu Val Gly Gly Leu Asn
      65              70              75              80

Ile Ala Asn Asp Val Thr Gln Leu Ile Gly Asn Thr Pro Met Val Tyr
      85              90              95

Leu Asn Asn Val Val Lys Gly Ser Val Ala Asn Val Ala Ala Lys Leu
      100             105             110

Glu Ile Met Glu Pro Cys Cys Ser Val Lys Asp Arg Ile Gly Tyr Ser
      115             120             125

Met Ile Asn Asp Ala Glu Gln Lys Gly Leu Ile Thr Pro Gly Lys Ser
      130             135             140

Val Leu Val Glu Ala Thr Ser Gly Asn Thr Gly Ile Gly Leu Ala Phe
      145             150             155             160

Ile Ala Ala Ser Lys Gly Tyr Lys Leu Ile Leu Thr Met Pro Ser Ser
      165             170             175

```

Met	Ser	Met	Glu	Arg	Arg	Val	Leu	Leu	Arg	Ala	Phe	Gly	Ala	Glu	Leu	
			180					185					190			
Val	Leu	Thr	Asp	Ala	Ala	Lys	Gly	Met	Lys	Gly	Ala	Leu	Asp	Lys	Ala	
		195					200					205				
Thr	Glu	Ile	Leu	Asn	Lys	Thr	Pro	Asn	Ser	Tyr	Met	Leu	Gln	Gln	Phe	
	210					215					220					
Asp	Asn	Pro	Ala	Asn	Pro	Gln	Val	His	Tyr	Glu	Thr	Thr	Gly	Pro	Glu	
225					230					235					240	
Ile	Trp	Glu	Asp	Ser	Lys	Gly	Lys	Val	Asp	Ile	Phe	Ile	Gly	Gly	Ile	
				245					250					255		
Gly	Thr	Gly	Gly	Thr	Ile	Ser	Gly	Ala	Gly	Arg	Phe	Leu	Lys	Glu	Lys	
			260					265					270			
Asn	Pro	Gly	Ile	Lys	Val	Ile	Gly	Ile	Glu	Pro	Ser	Glu	Ser	Asn	Ile	
		275					280					285				
Leu	Ser	Gly	Gly	Lys	Pro	Gly	Pro	His	Lys	Ile	Gln	Gly	Ile	Gly	Ala	
	290					295					300					
Gly	Phe	Val	Pro	Arg	Asn	Leu	Asp	Ser	Asp	Ile	Leu	Asp	Glu	Val	Ile	
305					310					315					320	
Glu	Ile	Ser	Ser	Asp	Glu	Ala	Val	Glu	Thr	Ala	Lys	Gln	Leu	Ala	Val	
				325					330					335		
Gln	Glu	Gly	Leu	Leu	Val	Gly	Ile	Ser	Ser	Gly	Ala	Ala	Ala	Ala	Ala	
			340					345					350			
Ala	Ile	Lys	Val	Ala	Lys	Arg	Pro	Glu	Asn	Ala	Gly	Lys	Leu	Ile	Val	
		355					360					365				
Val	Val	Phe	Pro	Ser	Phe	Gly	Glu	Arg	Tyr	Leu	Ser	Ser	Val	Leu	Tyr	
	370					375					380					
Gln	Ser	Ile	Arg	Glu	Glu	Cys	Glu	Asn	Met	Gln	Pro	Glu	Pro			
385					390					395						

<210> 63  
 <211> 1522  
 <212> DNA  
 <213> Oryza sativa

<400> 63	
gcacgaggtt ctaactacgg aactactccc ctatccaaca cctccgagtc cgagcaacgc	60
aagatggcgt cgtggtcgtc gcccgtcgcc gccgccgcct tgcaggtcca ttctgggtcc	120
tcctgcttct tctccgcccg atcgccacga cagaccctcc tcctaccacc tctcgcccgc	180
aaccctacac tgaccatcca gcccgggccc catcccttcc ggaacatcaa ctctctctcc	240
tcctccagct ggatgtgccca cgccgtcgcc gccgaggtcg agggcctcaa catcgccgac	300
gacgtcacc cagctcatcg caagactcca atggtatatc tcaacaacat cgtcaaggga	360
tgtgttgcca atgtcgctgc taagctcgag attatggagc cctgttgagc tgtcaaggac	420
aggataggat acagtatgat ttctgatgcg gaagagaaag gcttgataac tcctggaaag	480
agtgttttgg tggaaccaac aagtggaaat acaggcattg gtcttgccct cattgctgct	540
tccagaggat ataaattaat attgaccatg cctgcatcaa tgagcatgga gagaagagtt	600
ctactcaaag cttttggcgc tgaacttgct cttactgatg ccgcaaaagg gatgaagggg	660
gctgtagata aggctacaga gatttttaaat aagacacctg atgcctatat gctgcagcag	720
tttgacaacc ctgccaaccc aaaggtacat tatgagacta ctgggcccaga aatctgggag	780

```

gattctaaag ggaaggtgga tgtattcatt ggtggaattg gaacaggtgg aacaatatct 840
ggtgctggcc gtttcctgaa agagaaaaat cctggaatta aggttattgg tattgagcct 900
tctgagagta acatactctc tgggtgaaaa cctggcccac ataagattca aggcattggg 960
gcaggatttg ttccaaggaa cttggatagt gaagttctcg atgaagtgat tgagatatct 1020
agtgatgagg ctggtgagac agcaaagcaa ttggctcttc aggaaggatt actggttgga 1080
atttcacatctg gggcagcagc agcagctgcc attaaagttg caaaaagacc agaaaatgct 1140
ggaaagttgg tagtggttgt gtttccaagc tttggtgaga ggtacctttc atctatcctt 1200
tttcagtcga taagagaaga atgtgagaag ttgcaacctg aaccatgagc ctaacttcag 1260
tgttcacaac atcataattg tttctgagat ttctggccat tagttttttt ttctgagaag 1320
tatcatacca ctccatagct gtttgttcga taaataaaac agttaccttt gcacttataa 1380
tgaggcttgt gagggactctg tgaaatttct ctgaacatct tctactcttc tcttttatcc 1440
ttaaatcaat ctgggagcag tttgtaatac atacgtaaat ttaaagctgg gtgtttggtg 1500
attgtaaaaa aaaaaaaaaa aa 1522

```

```

<210> 64
<211> 415
<212> PRT
<213> Oryza sativa

```

```

<400> 64
Ala Arg Gly Ser Asn Tyr Gly Thr Thr Pro Leu Ser Asn Thr Ser Glu
 1             5             10             15

Ser Glu Gln Arg Lys Met Ala Ser Trp Ser Ser Pro Val Ala Ala Ala
          20             25             30

Ala Leu Gln Val His Phe Gly Ser Ser Cys Phe Phe Ser Ala Arg Ser
          35             40             45

Pro Arg Gln Thr Leu Leu Leu Pro Pro Leu Ala Arg Asn Pro Thr Leu
          50             55             60

Thr Ile Gln Pro Arg Pro His Pro Phe Arg Asn Ile Asn Ser Ser Ser
          65             70             75             80

Ser Ser Ser Trp Met Cys His Ala Val Ala Ala Glu Val Glu Gly Leu
          85             90             95

Asn Ile Ala Asp Asp Val Thr Gln Leu Ile Gly Lys Thr Pro Met Val
          100            105            110

Tyr Leu Asn Asn Ile Val Lys Gly Cys Val Ala Asn Val Ala Ala Lys
          115            120            125

Leu Glu Ile Met Glu Pro Cys Cys Ser Val Lys Asp Arg Ile Gly Tyr
          130            135            140

Ser Met Ile Ser Asp Ala Glu Glu Lys Gly Leu Ile Thr Pro Gly Lys
          145            150            155            160

Ser Val Leu Val Glu Pro Thr Ser Gly Asn Thr Gly Ile Gly Leu Ala
          165            170            175

Phe Ile Ala Ala Ser Arg Gly Tyr Lys Leu Ile Leu Thr Met Pro Ala
          180            185            190

Ser Met Ser Met Glu Arg Arg Val Leu Leu Lys Ala Phe Gly Ala Glu
          195            200            205

Leu Val Leu Thr Asp Ala Ala Lys Gly Met Lys Gly Ala Val Asp Lys
          210            215            220

```

Ala	Thr	Glu	Ile	Leu	Asn	Lys	Thr	Pro	Asp	Ala	Tyr	Met	Leu	Gln	Gln	225	230	235	240
Phe	Asp	Asn	Pro	Ala	Asn	Pro	Lys	Val	His	Tyr	Glu	Thr	Thr	Gly	Pro	245	250	255	
Glu	Ile	Trp	Glu	Asp	Ser	Lys	Gly	Lys	Val	Asp	Val	Phe	Ile	Gly	Gly	260	265	270	
Ile	Gly	Thr	Gly	Gly	Thr	Ile	Ser	Gly	Ala	Gly	Arg	Phe	Leu	Lys	Glu	275	280	285	
Lys	Asn	Pro	Gly	Ile	Lys	Val	Ile	Gly	Ile	Glu	Pro	Ser	Glu	Ser	Asn	290	295	300	
Ile	Leu	Ser	Gly	Gly	Lys	Pro	Gly	Pro	His	Lys	Ile	Gln	Gly	Ile	Gly	305	310	315	320
Ala	Gly	Phe	Val	Pro	Arg	Asn	Leu	Asp	Ser	Glu	Val	Leu	Asp	Glu	Val	325	330	335	
Ile	Glu	Ile	Ser	Ser	Asp	Glu	Ala	Val	Glu	Thr	Ala	Lys	Gln	Leu	Ala	340	345	350	
Leu	Gln	Glu	Gly	Leu	Leu	Val	Gly	Ile	Ser	Ser	Gly	Ala	Ala	Ala	Ala	355	360	365	
Ala	Ala	Ile	Lys	Val	Ala	Lys	Arg	Pro	Glu	Asn	Ala	Gly	Lys	Leu	Val	370	375	380	
Val	Val	Val	Phe	Pro	Ser	Phe	Gly	Glu	Arg	Tyr	Leu	Ser	Ser	Ile	Leu	385	390	395	400
Phe	Gln	Ser	Ile	Arg	Glu	Glu	Cys	Glu	Lys	Leu	Gln	Pro	Glu	Pro		405	410	415	

<210> 65  
 <211> 383  
 <212> PRT  
 <213> Spinacia oleracea

Met	Ala	Ser	Leu	Val	Asn	Asn	Ala	Tyr	Ala	Ala	Ile	Arg	Thr	Ser	Lys	1	5	10	15
Leu	Glu	Leu	Arg	Glu	Val	Lys	Asn	Leu	Ala	Asn	Phe	Arg	Val	Gly	Pro	20	25	30	
Pro	Ser	Ser	Leu	Ser	Cys	Asn	Asn	Phe	Lys	Lys	Val	Ser	Ser	Ser	Pro	35	40	45	
Ile	Thr	Cys	Lys	Ala	Val	Ser	Leu	Ser	Pro	Pro	Ser	Thr	Ile	Glu	Gly	50	55	60	
Leu	Asn	Ile	Ala	Glu	Asp	Val	Ser	Gln	Leu	Ile	Gly	Lys	Thr	Pro	Met	65	70	75	80
Val	Tyr	Leu	Asn	Asn	Val	Ser	Lys	Gly	Ser	Val	Ala	Asn	Ile	Ala	Ala	85	90	95	

Lys	Leu	Glu	Ser	Met	Glu	Pro	Cys	Cys	Ser	Val	Lys	Asp	Arg	Ile	Gly	100	105	110	
Tyr	Ser	Met	Ile	Asp	Asp	Ala	Glu	Gln	Lys	Gly	Val	Ile	Thr	Pro	Gly	115	120	125	
Lys	Thr	Thr	Leu	Val	Glu	Pro	Thr	Ser	Gly	Asn	Thr	Gly	Ile	Gly	Leu	130	135	140	
Ala	Phe	Ile	Ala	Ala	Ala	Arg	Gly	Tyr	Lys	Ile	Thr	Leu	Thr	Met	Pro	145	150	155	160
Ala	Ser	Met	Ser	Met	Glu	Arg	Arg	Val	Ile	Leu	Lys	Ala	Phe	Gly	Ala	165	170	175	
Glu	Leu	Val	Leu	Thr	Asp	Pro	Ala	Lys	Gly	Met	Lys	Gly	Ala	Val	Glu	180	185	190	
Lys	Ala	Glu	Glu	Ile	Leu	Lys	Lys	Thr	Pro	Asp	Ser	Tyr	Met	Leu	Gln	195	200	205	
Gln	Phe	Asp	Asn	Pro	Ala	Asn	Pro	Lys	Ile	His	Tyr	Glu	Thr	Thr	Gly	210	215	220	
Pro	Glu	Ile	Trp	Glu	Asp	Thr	Lys	Gly	Lys	Val	Asp	Ile	Phe	Val	Ala	225	230	235	240
Gly	Ile	Gly	Thr	Gly	Gly	Thr	Ile	Ser	Gly	Val	Gly	Arg	Tyr	Leu	Lys	245	250	255	
Glu	Arg	Asn	Pro	Gly	Val	Gln	Val	Ile	Gly	Ile	Glu	Pro	Thr	Glu	Ser	260	265	270	
Asn	Ile	Leu	Ser	Gly	Gly	Lys	Pro	Gly	Pro	His	Lys	Ile	Gln	Gly	Leu	275	280	285	
Gly	Ala	Gly	Phe	Val	Pro	Ser	Asn	Leu	Asp	Leu	Gly	Val	Met	Asp	Glu	290	295	300	
Val	Ile	Glu	Val	Ser	Ser	Glu	Glu	Ala	Val	Glu	Met	Ala	Lys	Gln	Leu	305	310	315	320
Ala	Met	Lys	Glu	Gly	Leu	Leu	Val	Gly	Ile	Ser	Ser	Gly	Ala	Ala	Ala	325	330	335	
Ala	Ala	Ala	Val	Arg	Ile	Gly	Lys	Arg	Pro	Glu	Asn	Ala	Gly	Lys	Leu	340	345	350	
Ile	Ala	Val	Val	Phe	Pro	Ser	Phe	Gly	Glu	Arg	Tyr	Leu	Ser	Ser	Ile	355	360	365	
Leu	Phe	Gln	Ser	Ile	Arg	Glu	Glu	Cys	Glu	Asn	Met	Lys	Pro	Glu		370	375	380	

<210> 66

<211> 386

<212> PRT

<213> Solanum tuberosum

<400> 66

Met Ala Ser Phe Ile Asn Asn Pro Leu Thr Ser Leu Cys Asn Thr Lys



1	5	10	15
Ser Glu Arg Asn Asn Leu Phe Lys Ile Ser Leu Tyr Glu Ala Gln Ser	20	25	30
Leu Gly Phe Ser Lys Leu Asn Gly Ser Arg Lys Val Ala Phe Pro Ser	35	40	45
Val Val Cys Lys Ala Val Ser Val Pro Thr Lys Ser Ser Thr Glu Ile	50	55	60
Glu Gly Leu Asn Ile Ala Glu Asp Val Thr Gln Leu Ile Gly Asn Thr	65	70	75
Pro Met Val Tyr Leu Asn Thr Ile Ala Lys Gly Cys Val Ala Asn Ile	85	90	95
Ala Ala Lys Leu Glu Ile Met Glu Pro Cys Cys Ser Val Lys Asp Arg	100	105	110
Ile Gly Phe Ser Met Ile Val Asp Ala Glu Glu Lys Gly Leu Ile Ser	115	120	125
Pro Gly Lys Thr Val Leu Val Glu Pro Thr Ser Gly Asn Thr Gly Ile	130	135	140
Gly Leu Ala Phe Ile Ala Ala Ser Arg Gly Tyr Lys Leu Ile Leu Thr	145	150	155
Met Pro Ala Ser Met Ser Leu Glu Arg Arg Val Ile Leu Lys Ala Phe	165	170	175
Gly Ala Glu Leu Val Leu Thr Asp Pro Ala Lys Gly Met Lys Gly Ala	180	185	190
Val Ser Lys Ala Glu Glu Ile Leu Asn Asn Thr Pro Asp Ala Tyr Ile	195	200	205
Leu Gln Gln Phe Asp Asn Pro Ala Asn Pro Lys Ile His Tyr Glu Thr	210	215	220
Thr Gly Pro Glu Ile Trp Glu Asp Thr Lys Gly Lys Ile Asp Ile Leu	225	230	235
Val Ala Gly Ile Gly Thr Gly Gly Thr Ile Thr Gly Thr Gly Arg Phe	245	250	255
Leu Lys Glu Gln Asn Pro Asn Ile Lys Ile Ile Gly Val Glu Pro Thr	260	265	270
Glu Ser Asn Val Leu Ser Gly Gly Lys Pro Gly Pro His Lys Ile Gln	275	280	285
Gly Ile Gly Ala Gly Phe Ile Pro Gly Asn Leu Asp Gln Asp Val Met	290	295	300
Asp Glu Val Ile Glu Ile Ser Ser Asp Glu Ala Val Glu Thr Ala Arg	305	310	315
Thr Leu Ala Leu Gln Glu Gly Leu Leu Val Gly Ile Ser Ser Gly Ala	325	330	335

Ala Ala Leu Ala Ala Ile Gln Val Gly Lys Arg Pro Glu Asn Ala Gly  
340 345 350

Lys Leu Ile Gly Val Val Phe Pro Ser Tyr Gly Glu Arg Tyr Leu Ser  
355 360 365

Ser Ile Leu Phe Gln Ser Ile Arg Glu Glu Cys Glu Lys Met Lys Pro  
370 375 380

Glu Leu  
385

<210> 67  
<211> 1581  
<212> DNA  
<213> Zea mays

<400> 67  
ggcgcgtggct tactggcttc caccacacagc cttcgcactt ccctccttcc tcgcaaattgg 60  
ccgtcgcgcgt ccccaacgct cccggccgcc tcttccttct ccaatccacc ccgttcccga 120  
accctagcag ctcggcatcc gccgctcgag cccaatcctt ccgcgtacca cccctccgcc 180  
tctcgcctatt ccgacgcatg gctgggcgct cgctgacggg gatcgcaggc gcctccggcg 240  
gctccgaacg agatctcagc gcctccgcag tctccgtgga ggccctggac tccgtcgcct 300  
ccgattctga cttagagacg aaggagccca gtgtgtcgac gatgctgacg agcttcgaga 360  
actcgttcga caagtatggg gctctgagca caccgctgta ccagaccgcc acctttaagc 420  
agccttcagc tacagattat ggaacttatg attacactag aagtggtaac cctactcgtg 480  
atgttctcca gagcctcatg gctaagcttg agaaagcaga tcaagcattc tgcttcacca 540  
gcgggatggc ggcgttagct gcagtaaaac acctccttca ggctggacaa gaaatagttg 600  
ctggtgagga catatatggt ggttctgac gtctactctc gcaagttgtg ccaagaaatg 660  
gaatagttgt aaaacgagta gatacaacga aaattagtgat tgtggtgtct gcaattggac 720  
cctccactag actggtttgg ctcgaaagtc ccacgaaccc tcgtcagcaa attactgaca 780  
ttaagacaat ctcagagata gcgcattctc atggtgctct tgttttggtt gacaacagca 840  
tcatgtctcc agtgctctcc cgtcctatag aactgggagc tgatatcgtg atgcactcgg 900  
ctaccaaat tatagcggga catagtgatc ttatggctgg aattccttga gtgaagggtg 960  
agagtttggc taaagaggta gggtttctgc aaaatgctga agggtcgggt ctggcacctt 1020  
ttgactgctg gctttgcttg aggggaatca aaaccatggc tctgcgggtg gagaaacaac 1080  
aggctaattg ccagaagatt gctgaattcc tggcgtctca cccgagggtc aagcaagtaa 1140  
actacgctgg gcttcctgac catcctgggc gagctttaca ctattcccag gcaaaggagg 1200  
cgggctctgt tctcagtttt ctcaccggct cactggccct ctcaaagcac gtcgtggaga 1260  
ccaccaagta cttcagcgtg acagtcagct tcgggagcgt gaagtccttc atcagcctgc 1320  
cgtgcttcat gtcccacgca tcaatccctg cctcgggtccg cgaggagcgt ggcctaaccg 1380  
acgacctcgt ccggatatcg gtcggcatcg aggatgtcga ggacctcatc gccgatctgg 1440  
accgcgcgct cagaactggc ccggtgtaga catcgccgat ccttaggtca tgtcaagcta 1500  
tcttttgatg attcattggt tgactgcttg cgtgatgata ataatgggaa tgttgcttgg 1560  
ataaaaaaaaa a 1581

<210> 68  
<211> 470  
<212> PRT  
<213> Zea mays

<400> 68  
Met Ala Val Ala Val Pro Asn Ala Pro Gly Arg Leu Phe Leu Leu Gln  
1 5 10 15  
Ser Thr Pro Phe Pro Asn Pro Ser Ser Ser Ala Ser Ala Ala Arg Ala  
20 25 30  
Gln Ser Phe Arg Val Pro Pro Leu Arg Leu Ser Leu Phe Arg Arg Met  
35 40 45

Ala	Gly	Arg	Ser	Leu	Thr	Val	Ile	Ala	Gly	Ala	Ser	Gly	Gly	Ser	Glu	50	55	60	
Arg	Asp	Leu	Ser	Ala	Ser	Ala	Val	Ser	Val	Glu	Ala	Leu	Asp	Ser	Val	65	70	75	80
Ala	Ser	Asp	Ser	Asp	Leu	Glu	Thr	Lys	Glu	Pro	Ser	Val	Ser	Thr	Met	85	90	95	
Leu	Thr	Ser	Phe	Glu	Asn	Ser	Phe	Asp	Lys	Tyr	Gly	Ala	Leu	Ser	Thr	100	105	110	
Pro	Leu	Tyr	Gln	Thr	Ala	Thr	Phe	Lys	Gln	Pro	Ser	Ala	Thr	Asp	Tyr	115	120	125	
Gly	Thr	Tyr	Asp	Tyr	Thr	Arg	Ser	Gly	Asn	Pro	Thr	Arg	Asp	Val	Leu	130	135	140	
Gln	Ser	Leu	Met	Ala	Lys	Leu	Glu	Lys	Ala	Asp	Gln	Ala	Phe	Cys	Phe	145	150	155	160
Thr	Ser	Gly	Met	Ala	Ala	Leu	Ala	Ala	Val	Lys	His	Leu	Leu	Gln	Ala	165	170	175	
Gly	Gln	Glu	Ile	Val	Ala	Gly	Glu	Asp	Ile	Tyr	Gly	Gly	Ser	Asp	Arg	180	185	190	
Leu	Leu	Ser	Gln	Val	Val	Pro	Arg	Asn	Gly	Ile	Val	Val	Lys	Arg	Val	195	200	205	
Asp	Thr	Thr	Lys	Ile	Ser	Asp	Val	Val	Ser	Ala	Ile	Gly	Pro	Ser	Thr	210	215	220	
Arg	Leu	Val	Trp	Leu	Glu	Ser	Pro	Thr	Asn	Pro	Arg	Gln	Gln	Ile	Thr	225	230	235	240
Asp	Ile	Lys	Thr	Ile	Ser	Glu	Ile	Ala	His	Ser	His	Gly	Ala	Leu	Val	245	250	255	
Leu	Val	Asp	Asn	Ser	Ile	Met	Ser	Pro	Val	Leu	Ser	Arg	Pro	Ile	Glu	260	265	270	
Leu	Gly	Ala	Asp	Ile	Val	Met	His	Ser	Ala	Thr	Lys	Phe	Ile	Ala	Gly	275	280	285	
His	Ser	Asp	Leu	Met	Ala	Gly	Ile	Leu	Ala	Val	Lys	Gly	Glu	Ser	Leu	290	295	300	
Ala	Lys	Glu	Val	Gly	Phe	Leu	Gln	Asn	Ala	Glu	Gly	Ser	Gly	Leu	Ala	305	310	315	320
Pro	Phe	Asp	Cys	Trp	Leu	Cys	Leu	Arg	Gly	Ile	Lys	Thr	Met	Ala	Leu	325	330	335	
Arg	Val	Glu	Lys	Gln	Gln	Ala	Asn	Ala	Gln	Lys	Ile	Ala	Glu	Phe	Leu	340	345	350	
Ala	Ser	His	Pro	Arg	Val	Lys	Gln	Val	Asn	Tyr	Ala	Gly	Leu	Pro	Asp	355	360	365	

His	Pro	Gly	Arg	Ala	Leu	His	Tyr	Ser	Gln	Ala	Lys	Gly	Ala	Gly	Ser	
370						375					380					
Val	Leu	Ser	Phe	Leu	Thr	Gly	Ser	Leu	Ala	Leu	Ser	Lys	His	Val	Val	
385					390					395					400	
Glu	Thr	Thr	Lys	Tyr	Phe	Ser	Val	Thr	Val	Ser	Phe	Gly	Ser	Val	Lys	
				405					410					415		
Ser	Leu	Ile	Ser	Leu	Pro	Cys	Phe	Met	Ser	His	Ala	Ser	Ile	Pro	Ala	
			420					425					430			
Ser	Val	Arg	Glu	Glu	Arg	Gly	Leu	Thr	Asp	Asp	Leu	Val	Arg	Ile	Ser	
		435					440					445				
Val	Gly	Ile	Glu	Asp	Val	Glu	Asp	Leu	Ile	Ala	Asp	Leu	Asp	Arg	Ala	
	450					455					460					
Leu	Arg	Thr	Gly	Pro	Val											
465					470											

<210> 69  
 <211> 1685  
 <212> DNA  
 <213> Oryza sativa

<400> 69

aggcaaccat	gagcgccgcc	gccgcccgcg	ccgccgccgc	cgcaatcccc	acctctctcg	60
gccgcctctt	ccacctccgc	cccaccccga	acccctcccc	gaaccttagc	ggcagctcag	120
cgcaaccctt	cctccgcctc	agctaccacc	cacgcctcac	gctctctcgc	cgcattggagg	180
cgccggcggc	gacgcgcgac	tcccacggcg	gcggcgacct	gagcgcgctc	gcggctcggcg	240
cggaggcgct	gggcgcccgc	gccgctccgg	atttcgatgt	ggagatgaag	gagcctagcg	300
tggcgacgat	actgacgagc	ttcgagaact	cgttcgatgg	gttcgggtct	atgagcacgc	360
cgctgtacca	gacggccacg	tttaagcagc	cttcagcaac	cgataatgga	ccttatgatt	420
acactagaag	tggtaaccct	acacgtgatg	ttctccaaag	ccttatggct	aagcttgaga	480
aggcggatca	ggcattctgc	ttcaccagtg	ggatggcagc	actagctgca	gtaacacacc	540
tccttaagtc	tggacaagaa	atagttgctg	gagaggacat	atatggtggc	tcagaccgtc	600
tgctctcaca	agttgccccg	agacatggga	ttgtagtaaa	acgaattgat	acaaccaaaa	660
ttagtgaggt	aacttctgca	attgggccct	tgactaaact	agtatggctt	gaaagtccca	720
ccaatccccg	tctacaaatt	actgatataa	agaaaatagc	agagatagct	cattaccatg	780
gtgctcttgt	tttagtagac	aacagcatca	tgtctcctgt	gctctcccgt	cctctagaac	840
ttggagcaga	tattgttatg	cactcagcaa	ccaaatttat	agctggacat	agcgatctta	900
tggctggaat	tcttgcggtg	aagggtgaaa	gcagcttggc	taaagagatt	gcatttctac	960
aaaatgctga	aggatcaggt	ttggcaccat	ttgattgctg	gctttgtttg	agaggaatca	1020
aaaccatggc	tttgcggggtg	gagaagcagc	aggctaattg	tcagaagatt	gctgaatttc	1080
tagcttctca	tccaagagta	aagaaagtga	actatgcagg	acttcctgat	catcctggac	1140
gatctctaca	ctattcccag	gcaaagggag	cgggttcagt	tctcagtttc	ctaactgggt	1200
cattagctct	ctcaaaacat	gttggttgaga	ccacaaagta	cttcaatgta	acagttagct	1260
ttggaagtgt	gaaatcgctc	attagcctgc	catgcttcat	gtcacacgcc	agcatccctt	1320
ctgcgggttcg	cgaggagcgc	ggcctgacag	acgatctagt	caggatatcg	gttggaattg	1380
aggatgccga	cgacctcata	gcggatcttg	atcatgctct	ccggtctggt	ccagcttaga	1440
gcctgtgaat	tctgtgccct	tcctgttcgt	tagggatgta	gatgtgggtc	tgtgggtgct	1500
atctgtgtgg	gtgattgatt	cattgggtcaa	ctcaataagc	tgctgtgtca	tcgaggggaat	1560
aaagacaatc	tatcccaaat	tttttaaacac	catatgggtga	ccaactgacc	atgatatggt	1620
cttaatcaat	tgatatttat	agaagggtttc	tttgaactgc	aaaaaaaaaa	aaaaaaaaaa	1680
aaaaa						1685

<210> 70  
 <211> 476  
 <212> PRT  
 <213> Oryza sativa

<400> 70

Met Ser Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ile Pro Thr Ser  
1 5 10 15

Leu Gly Arg Leu Phe His Leu Arg Pro Thr Pro Asn Pro Ser Arg Asn  
20 25 30

Leu Ser Gly Ser Ser Ala Gln Pro Leu Leu Arg Leu Ser Tyr His Pro  
35 40 45

Arg Leu Thr Leu Ser Arg Arg Met Glu Ala Pro Ala Ala Ile Ala Asp  
50 55 60

Ser His Gly Gly Gly Asp Leu Ser Ala Ser Ala Val Gly Ala Glu Ala  
65 70 75 80

Leu Gly Ala Val Ala Ala Pro Asp Phe Asp Val Glu Met Lys Glu Pro  
85 90 95

Ser Val Ala Thr Ile Leu Thr Ser Phe Glu Asn Ser Phe Asp Gly Phe  
100 105 110

Gly Ser Met Ser Thr Pro Leu Tyr Gln Thr Ala Thr Phe Lys Gln Pro  
115 120 125

Ser Ala Thr Asp Asn Gly Pro Tyr Asp Tyr Thr Arg Ser Gly Asn Pro  
130 135 140

Thr Arg Asp Val Leu Gln Ser Leu Met Ala Lys Leu Glu Lys Ala Asp  
145 150 155 160

Gln Ala Phe Cys Phe Thr Ser Gly Met Ala Ala Leu Ala Ala Val Thr  
165 170 175

His Leu Leu Lys Ser Gly Gln Glu Ile Val Ala Gly Glu Asp Ile Tyr  
180 185 190

Gly Gly Ser Asp Arg Leu Leu Ser Gln Val Ala Pro Arg His Gly Ile  
195 200 205

Val Val Lys Arg Ile Asp Thr Thr Lys Ile Ser Glu Val Thr Ser Ala  
210 215 220

Ile Gly Pro Leu Thr Lys Leu Val Trp Leu Glu Ser Pro Thr Asn Pro  
225 230 235 240

Arg Leu Gln Ile Thr Asp Ile Lys Lys Ile Ala Glu Ile Ala His Tyr  
245 250 255

His Gly Ala Leu Val Leu Val Asp Asn Ser Ile Met Ser Pro Val Leu  
260 265 270

Ser Arg Pro Leu Glu Leu Gly Ala Asp Ile Val Met His Ser Ala Thr  
275 280 285

Lys Phe Ile Ala Gly His Ser Asp Leu Met Ala Gly Ile Leu Ala Val  
290 295 300

Lys Gly Glu Ser Ser Leu Ala Lys Glu Ile Ala Phe Leu Gln Asn Ala  
305 310 315 320

Glu Gly Ser Gly Leu Ala Pro Phe Asp Cys Trp Leu Cys Leu Arg Gly  
 325 330 335  
 Ile Lys Thr Met Ala Leu Arg Val Glu Lys Gln Gln Ala Asn Ala Gln  
 340 345 350  
 Lys Ile Ala Glu Phe Leu Ala Ser His Pro Arg Val Lys Lys Val Asn  
 355 360 365  
 Tyr Ala Gly Leu Pro Asp His Pro Gly Arg Ser Leu His Tyr Ser Gln  
 370 375 380  
 Ala Lys Gly Ala Gly Ser Val Leu Ser Phe Leu Thr Gly Ser Leu Ala  
 385 390 395 400  
 Leu Ser Lys His Val Val Glu Thr Thr Lys Tyr Phe Asn Val Thr Val  
 405 410 415  
 Ser Phe Gly Ser Val Lys Ser Leu Ile Ser Leu Pro Cys Phe Met Ser  
 420 425 430  
 His Ala Ser Ile Pro Ser Ala Val Arg Glu Glu Arg Gly Leu Thr Asp  
 435 440 445  
 Asp Leu Val Arg Ile Ser Val Gly Ile Glu Asp Ala Asp Asp Leu Ile  
 450 455 460  
 Ala Asp Leu Asp His Ala Leu Arg Ser Gly Pro Ala  
 465 470 475

<210> 71  
 <211> 1699  
 <212> DNA  
 <213> Triticum aestivum

<400> 71  
 gcacgagagc gtggccacga tactgaccag cttcgagaac tcgttcgaca agtatggggc 60  
 tctcagcagc ccgctgtacc agacggccac cttcaagcag ccttcagcaa ccgttaatgg 120  
 agcttatgat tatactagaa gtggcaaccc tactcgtgat gttctccaga gccttatggc 180  
 taagctcgag aaggcagacc aagcattctg cttcactagt gggatggcat cactggctgc 240  
 agtaacacac ctccttcagg ctggacaaga aatagttgct ggagaggaca tatatgggtg 300  
 ctctgatcgt ctgctctcac aagttgtccc aagaaatgga attgtagtaa aacgggtcga 360  
 tacaactaaa attaacgacg tgactgctgc aatcggaccc ttgactagac tagtttggtc 420  
 tgaaagtccc accaatcctc gtcaacaaat tactgatata aagaaaatct cagagatagc 480  
 tcattctcat ggtgcacttg ttttggtgga caacagtatc atgtctccag tgctatcctg 540  
 gcctatagaa cttggagcag atattgtgat gcactcagct accaaattta tagctggaca 600  
 cagtgatcct atggctggaa ttcttgctgt aaagggtgaa agcttggtta aggagattgc 660  
 atttctacaa aacgctgaag gttctgggtt ggcacctttt gattgttggtc tttgcttgag 720  
 agggatcaaa accatggcct tacgggtgga aaagcaacag gataatgcc agaagattgc 780  
 tgaattctta gcttctcatc caagggtcaa gcaagtgaat tatgctggac ttcctgatca 840  
 tcctggccga tctttacact actctcaggc aaaggggagcg ggctctgtcc tcagtttcca 900  
 aactggttca ttgtctctct caaagcatgt tgttgagaca accaagtact tcaacgtaac 960  
 agttagcttc ggaagtgtga agtcactcat aagcttgccc tgcttcatgt cgcacgcgag 1020  
 catcccttcc tcggtgagag aggagcgtgg gttgactgat gatctagtac ggatatcggt 1080  
 gggatattgag gatgtggatg acctcatagc tgatcttgat tacgcgctca ggtccggtcc 1140  
 agcatagatc atacaaaatc tggactatgg cgcttcgggt tctagttaat caagttgtag 1200  
 atgtgatatg cattgggtgat tcattttgta agctgcaaca gtaataataa acttctgcac 1260  
 gagtatcttc tgaaatgacg agcccacggg tgatgtgtt gttcctcata ggcttcaaca 1320  
 gaaaaaccct gaggccaact gacaagtagc aacattcata aacttcacaa catcgatact 1380  
 tggttctgcc catgttcatt tttcttggtc gccattgtga cggctttgta gctcaagtag 1440

```

gaaggagtga catggccggt ggttgatggg gagaaaagga gttggttcgt cggatcgatc 1500
cgtgtaggcg cttgtgtatt ttgtatatgg tgtttttcgt ctgtgcaggt gagtctgtgt 1560
atacatctgg agactggatt attcatggtc attggtgtgg cggatgaagaa taatgtgacg 1620
attcttttgt agtgtatcta agaactgtga tgttcttgtg caaaaaaaaaa aaaaaaaaaa 1680
aaaaaaaaaa aaaaaaaaaa 1699

```

```

<210> 72
<211> 381
<212> PRT
<213> Triticum aestivum

```

```

<400> 72
His Glu Ser Val Ala Thr Ile Leu Thr Ser Phe Glu Asn Ser Phe Asp
  1              5              10              15

Lys Tyr Gly Ala Leu Ser Thr Pro Leu Tyr Gln Thr Ala Thr Phe Lys
              20              25              30

Gln Pro Ser Ala Thr Val Asn Gly Ala Tyr Asp Tyr Thr Arg Ser Gly
              35              40              45

Asn Pro Thr Arg Asp Val Leu Gln Ser Leu Met Ala Lys Leu Glu Lys
  50              55              60

Ala Asp Gln Ala Phe Cys Phe Thr Ser Gly Met Ala Ser Leu Ala Ala
  65              70              75              80

Val Thr His Leu Leu Gln Ala Gly Gln Glu Ile Val Ala Gly Glu Asp
              85              90              95

Ile Tyr Gly Gly Ser Asp Arg Leu Leu Ser Gln Val Val Pro Arg Asn
  100              105              110

Gly Ile Val Val Lys Arg Val Asp Thr Thr Lys Ile Asn Asp Val Thr
  115              120              125

Ala Ala Ile Gly Pro Leu Thr Arg Leu Val Trp Leu Glu Ser Pro Thr
  130              135              140

Asn Pro Arg Gln Gln Ile Thr Asp Ile Lys Lys Ile Ser Glu Ile Ala
  145              150              155              160

His Ser His Gly Ala Leu Val Leu Val Asp Asn Ser Ile Met Ser Pro
              165              170              175

Val Leu Ser Trp Pro Ile Glu Leu Gly Ala Asp Ile Val Met His Ser
  180              185              190

Ala Thr Lys Phe Ile Ala Gly His Ser Asp Leu Met Ala Gly Ile Leu
  195              200              205

Ala Val Lys Gly Glu Ser Leu Ala Lys Glu Ile Ala Phe Leu Gln Asn
  210              215              220

Ala Glu Gly Ser Gly Leu Ala Pro Phe Asp Cys Trp Leu Cys Leu Arg
  225              230              235              240

Gly Ile Lys Thr Met Ala Leu Arg Val Glu Lys Gln Gln Asp Asn Ala
              245              250              255

Gln Lys Ile Ala Glu Phe Leu Ala Ser His Pro Arg Val Lys Gln Val

```

260						265						270					
Asn	Tyr	Ala	Gly	Leu	Pro	Asp	His	Pro	Gly	Arg	Ser	Leu	His	Tyr	Ser		
275						280						285					
Gln	Ala	Lys	Gly	Ala	Gly	Ser	Val	Leu	Ser	Phe	Gln	Thr	Gly	Ser	Leu		
290						295				300							
Ser	Leu	Ser	Lys	His	Val	Val	Glu	Thr	Thr	Lys	Tyr	Phe	Asn	Val	Thr		
305				310						315				320			
Val	Ser	Phe	Gly	Ser	Val	Lys	Ser	Leu	Ile	Ser	Leu	Pro	Cys	Phe	Met		
			325						330			335					
Ser	His	Ala	Ser	Ile	Pro	Ser	Ser	Val	Arg	Glu	Glu	Arg	Gly	Leu	Thr		
			340						345			350					
Asp	Asp	Leu	Val	Arg	Ile	Ser	Val	Gly	Ile	Glu	Asp	Val	Asp	Asp	Leu		
355						360				365							
Ile	Ala	Asp	Leu	Asp	Tyr	Ala	Leu	Arg	Ser	Gly	Pro	Ala					
370						375				380							